

**FINDING OF NO SIGNIFICANT IMPACT/  
FINDING OF NO PRACTICABLE ALTERNATIVE**

**ENVIRONMENTAL ASSESSMENT  
OF THE PRIVATIZATION OF MILITARY FAMILY HOUSING  
AT MACDILL AIR FORCE BASE, FLORIDA**

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## **INTRODUCTION**

The U.S. Air Force (USAF or Air Force) operates and maintains approximately 104,000 family housing units at its installations throughout the United States. More than 38 percent of all units do not meet current standards and require major improvement or replacement. The lack of adequate military family housing (MFH) forces many military personnel and their families to live in housing in need of repair, renovation, or replacement, or to live off-base where the cost and quality of housing vary considerably. Congress enacted the Military Housing Privatization Initiative (MHPI) as part of the National Defense Authorization Act for Fiscal Year 1996 to create alternative authorities for improvement and construction of MFH.

Consistent with the USAF MHPI, the Air Force proposes to convey MFH units, lease land, and transfer responsibility for providing housing and ancillary support facilities at MacDill Air Force Base (AFB) to a private developer. An environmental assessment (EA) has been prepared in accordance with the National Environmental Policy Act (NEPA) and the Air Force *Environmental Impact Analysis Process* (EIAP) promulgated at Title 32, Code of Federal Regulations (CFR), Part 989, and is incorporated by reference into this finding.

## **DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVE**

**Proposed Action.** The Air Force proposes to convey 752 MFH units, lease 236.1 acres of land, and transfer responsibility for providing housing and ancillary support facilities at MacDill AFB to a private developer (project owner [PO]). All of the existing MFH units in six neighborhoods would be conveyed to the project owner. The PO would retain 240 recently constructed units, construct 331 new units, demolish 507 units, and maintain for a short-term (up to six years) 5 units and a garage, known as Staff Circle, which is eligible for listing as a district on the National Register of Historic Places (NRHP), resulting in an end-state inventory of 571 MFH units. The Air Force also would grant a fifty-year lease for approximately 221.9 acres of lands underlying parcels A, B1, C, D, and E, including all utilities (except communications systems) and other infrastructure. The Air Force also would grant short-term leases for 14.2 acres of land underlying parcel B2, not to exceed four years, and parcel F (Staff Circle), not to exceed six years.

The residences in Staff Circle (parcel F) are general officers' quarters (GOQ). Under the proposed action, Staff Circle would be leased to the PO until new GOQ are constructed. The Air Force has satisfied its responsibilities under Section 106 of the National Historic Preservation Act (NHPA) by making the proposed transfer of Staff Circle subject to legally enforceable restrictions for preservation of the property's historic significance. Air Force responsibilities to avoid any potential adverse effect due to its transfer out of federal ownership or control are contained in a programmatic agreement (PA) prepared for the Staff Circle transfer and executed by Air Force, the Florida State Historic Preservation Officer (SHPO), the Advisory Council on Historic Preservation (ACHP), and the PO. The PA is included as appendix D to the attached EA. By the EA and this finding of no significant impact (FONSI), the Air Force has coordinated its compliance under the NHPA and the ACHP's regulations with the steps taken to meet the requirements of NEPA, as provided for in 36 CFR 800.8(c), and has thereby preserved the historic significance of Staff Circle.

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16. SECURITY CLASSIFICATION OF: <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%; padding: 2px;">a. REPORT <b>unclassified</b></td> <td style="width: 33%; padding: 2px;">b. ABSTRACT <b>unclassified</b></td> <td style="width: 33%; padding: 2px;">c. THIS PAGE <b>unclassified</b></td> </tr> </table>			a. REPORT <b>unclassified</b>	b. ABSTRACT <b>unclassified</b>	c. THIS PAGE <b>unclassified</b>	17. LIMITATION OF ABSTRACT <b>Same as Report (SAR)</b>	18. NUMBER OF PAGES <b>207</b>	19a. NAME OF RESPONSIBLE PERSON
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**No Action Alternative.** Under the no action alternative, Air Force would not implement the proposed action. The Air Force would be solely responsible to provide for the housing needs of military personnel and family members. It is anticipated that the 240 newly constructed MFH units in parcels A, C, and D would continue to provide adequate housing with only minor maintenance and repairs. The remaining, older 512 MFH units in parcels B1, B2, E, and F would also be used, maintained, and renovated along with the associated infrastructure. However, based on historical trends, it is assumed that the amount of congressional funding for MFH would not change and that the housing maintenance backlog would continue to increase. Additionally, 181 of the total 752 units in the MacDill AFB housing inventory have been identified as surplus. The no action alternative presumes that older, inadequate units would require major renovation and surplus units would be demolished, as enabled by congressional funding.

#### SUMMARY OF ANTICIPATED ENVIRONMENTAL CONSEQUENCES

**Proposed Action.** Minor, short-term adverse effects resulting from construction and demolition activities would occur on the noise environment, air quality, safety, geological resources, water resources, biological resources, infrastructure (transportation and production of solid waste), and hazardous materials and wastes. Adverse effects associated with construction activities would be localized to the immediate area of construction and would subside following the end of construction. Minor, short-term indirect beneficial effects on the socioeconomics of the local community would also occur due to construction costs. No environmental justice issues are associated with this proposed action.

Minor, long-term beneficial effects on land use and infrastructure (utilities) would be expected from a reduction in housing density and the proposed MFH improvements and upgrades. Minor, short-term adverse and long-term beneficial effects would result from the removal of asbestos-containing material, lead-based paint, and mold in older MFH units. Removal of these materials would constitute a safety risk during demolition activities that would be addressed by existing worker health and safety plans. MFH residents would benefit by removal of these hazardous materials. Site development in parcels A, C, D, and E could potentially encounter contamination from Solid Waste Management Units 78, 83, and 61 and Site 52 that would also be addressed by existing health and safety plans and compliance program procedures.

Potential adverse effects associated with the transfer of Staff Circle (parcel F) would be avoided by the PA, which has been executed to ensure preservation of the historical significance of Staff Circle, while this NRHP-eligible district is subject to the short-term lease under the MHPI. Any proposed modifications to the Staff Circle units or garage that are not otherwise identified in the PA as approved exempt activities would require coordination with the SHPO. No additional effects on archaeological or architectural resources, or traditional cultural properties would be expected as a result of the proposed action. In the event of an inadvertent discovery of artifacts, the applicable procedures identified in the MacDill AFB integrated cultural resource management plan would be followed to ensure proper treatment of a find.

The proposed action would not be expected to affect any wetlands. The PO would be required to comply with all state and federal regulations regarding potential impacts to wetlands. A jurisdictional determination of wetland boundaries would occur prior to any construction activities if a potential impact to wetlands proximate to the MFH parcels is encountered in the implementation of the proposed action.

Approximately eighty percent of MacDill AFB lies in a one hundred-year coastal floodplain. All of the MFH parcels involved in the proposed action are situated within the coastal floodplain. Executive Order (EO) 11988, *Floodplain Management*, requires the Air Force to consider alternatives to avoid adverse effects and incompatible developments for any proposed action in a floodplain; design or modify the proposed action to minimize potential harm to the floodplain; and, to prepare and circulate a notice of the proposed action to facilitate public review. Both the subject EA and previously prepared EIAP documents have considered alternatives to the development of similar types of projects in the coastal floodplain at MacDill AFB. In addition, the floodplain management plan (FPMP) prepared by MacDill

AFB in 2006 will apply to all installation development at MacDill AFB, including this proposed action, to minimize potential environmental consequences. As with the public review and interagency coordination for this EA, all previously prepared EIAP documents and the FPMP were circulated for public review as required by both EO 11988 and NEPA. The existing location of all MFH parcels within the coastal floodplain and the absence of alternate land on MacDill AFB for future housing development outside the floodplain combine to establish that there is no practicable alternative to implementing the proposed action.

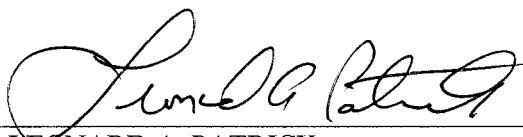
**No Action Alternative.** Under the no action alternative, there would be no change from the baseline conditions of the noise environment, land use, air quality, safety, geological resources, water resources, biological resources, cultural resources, socioeconomic condition, infrastructure, or hazardous materials and waste management. Any congressionally funded construction of MFH would require separate NEPA review.

#### PUBLIC REVIEW AND INTERAGENCY COORDINATION

In accordance with Air Force policy, the interagency and intergovernmental coordination for environmental planning (IICEP) process was initiated on July 11, 2006, for the description of proposed action and alternatives (DOPAA). No comments were received on the DOPAA during that initial IICEP period. A notice of availability for the Draft EA and FONSI/FONPA was published on July 27, 2007, in *The Tampa Tribune* announcing a 30-day public review of drafts placed in local libraries and made available to all interested agencies and parties. Responses were received from the Florida State Clearinghouse, the U.S. Fish and Wildlife Service, National Oceanic and Atmospheric Administration, Miccosukee Tribe of Indians of Florida, and the Seminole Tribe of Florida, all of which are included in appendices to the EA. No substantive or procedural concerns were expressed regarding the draft EA and FONSI/FONPA.

#### FINDING OF NO SIGNIFICANT IMPACT/ FINDING OF NO PRACTICABLE ALTERNATIVE

Based on the findings of the EA, I conclude that the environmental effects of the proposed privatization of MFH at MacDill AFB are not significant, that preparation of an environmental impact statement is unnecessary, and that a FONSI is appropriate. Pursuant to Executive Order 11988 and the authority delegated by Secretary of the Air Force Order 791.1, and taking the above information into account, I find that there is no practicable alternative to this action and that all measures to minimize potential harm to the coastal floodplain would be taken. The preparation of the attached EA is in accordance with NEPA, Council on Environmental Quality regulations, and 32 CFR Part 989, as amended.



LEONARD A. PATRICK  
Brigadier General (Sel), USAF  
Director, Installations & Mission Support

90807  
Date

Attachment: Environmental Assessment of the Privatization of Military Family Housing at MacDill AFB

**ENVIRONMENTAL ASSESSMENT  
OF THE PRIVATIZATION OF MILITARY FAMILY HOUSING  
AT MACDILL AIR FORCE BASE, FLORIDA**



**HEADQUARTERS AIR MOBILITY COMMAND**



**SEPTEMBER 2007**

## ***ACRONYMS AND ABBREVIATIONS***

$\mu\text{g}/\text{m}^3$	micrograms per cubic meter	EIAP	Environmental Impact Analysis Process
6 CES/CEV	6th Civil Engineering Squadron, Environmental Flight	EIS	Environmental Impact Statement
ACHP	Advisory Council on Historic Preservation	EMIS	Environmental Management Information System
ACM	asbestos-containing material	EO	Executive Order
AFB	Air Force Base	EPC	Environmental Protection Commission
AFI	Air Force Instruction	ERP	Environmental Restoration Program
AFPD	Air Force Policy Directive	ESA	Endangered Species Act
AMC	Air Mobility Command	FAC	Florida Administrative Code
amsl	above mean sea level	FCMP	Florida Coastal Management Program
APE	Area of Potential Effect	FDEP	Florida Department of Environmental Protection
AQCR	air quality control region	FEMA	Federal Emergency Management Agency
ARPA	Archaeological Resources Protection Act	FONPA	Finding of No Practicable Alternative
AST	aboveground storage tank	FONSI	Finding of No Significant Impact
BAH	Basic Allowance for Housing	FPMP	Floodplain Management Plan
BMP	best management practice	FPPA	Farmland Protection Policy Act
BTEX	benzene, toluene, ethylbenzene, xylene	FWC	Florida Fish and Wildlife Conservation Commission
C&D	construction and demolition	FY	Fiscal Year
CAA	Clean Air Act	GOQ	General Officers' Quarters
CEQ	Council on Environmental Quality	HAPC	habitat areas of particular concern
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	HAZMART	Hazardous Materials Pharmacy
CFR	Code of Federal Regulations	HAZWOPER	Hazardous Work Operations and Emergency Responses
CO	carbon monoxide	HRMA	Housing Requirements and Marketing Analysis
CWA	Clean Water Act	HSWA	Hazardous and Solid Waste Amendment
CZMA	Coastal Zone Management Act	HVAC	heating, ventilation, and air conditioning
dB	decibels		
dBA	A-weighted decibels		
DCA	dichloroethane		
DCE	dichloroethylene		
DOD	Department of Defense		
DOT	U.S. Department of Transportation		
DRMO	Defense Reutilization and Marketing Office		
EA	Environmental Assessment		
EFH	essential fish habitat		

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I	Interstate	P.L.	oil-water separator
ICRMP	Integrated Cultural Resources Management Plan	PA	Public Law
IDEA	Installation Development Environmental Assessment	Pb	Programmatic Agreement
IICEP	Interagency and Intergovernmental Coordination for Environmental Planning	PCB	lead
INRMP	Integrated Natural Resources Management Plan	pCi/L	polychlorinated biphenyl
LBP	lead-based paint	PM <sub>2.5, 10</sub>	picocuries per liter
MFH	Military Family Housing	PO	particulate matter equal to or less than 2.5 or 10 microns in diameter
mg/cm <sup>2</sup>	milligrams per square centimeter	POL	Project Owner
mg/m <sup>3</sup>	milligrams per cubic meter	ppm	petroleum, oil, and lubricants
MHPI	Military Housing Privatization Initiative	PSD	parts per million
mph	miles per hour	RCRA	Prevention of Significant Deterioration
MS4	Municipal Separate Storm Sewer System	ROI	Resource Conservation and Recovery Act
MSA	Metropolitan Statistical Area	SHPO	Region of Influence
MSGP	Multi-Sector Generic Permit	SIP	State Historic Preservation Officer
MSW	municipal solid waste	SO <sub>2</sub>	State Implementation Plan
NAAQS	National Ambient Air Quality Standards	SPCC	sulfur dioxide
NAGPRA	Native American Graves Protection and Repatriation Act	SR	Spill Prevention Control and Countermeasures Plan
NEPA	National Environmental Policy Act	SWMU	State Route
NHPA	National Historic Preservation Act	SWPPP	Solid Waste Management Unit
NMFS	National Marine Fisheries Service	TCE	storm water pollution prevention plan
NO <sub>2</sub>	nitrogen dioxide	tpy	trichloroethylene
NO <sub>x</sub>	nitrogen oxide	TRPH	tons per year
NPDES	National Pollutant Discharge Elimination System	U.S.C.	total recoverable petroleum hydrocarbons
NRHP	National Register of Historic Places	USACE	United States Code
O <sub>3</sub>	ozone	USAF	U.S. Army Corps of Engineers
OSHA	Occupational Safety and Health Administration	USEPA	U.S. Air Force
		USFWS	U.S. Environmental Protection Agency
		UST	U.S. Fish and Wildlife Service
		VOC	underground storage tank
		WCFI	volatile organic compound
		WWTP	West Central Florida Intrastate wastewater treatment plant



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**ENVIRONMENTAL ASSESSMENT  
OF THE PRIVATIZATION OF MILITARY FAMILY HOUSING  
AT MACDILL AIR FORCE BASE, FLORIDA**

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#### **INTRODUCTION**

The U.S. Air Force (USAF or Air Force) operates and maintains approximately 104,000 family housing units at its installations throughout the United States. More than 38 percent of all units do not meet current standards and require major improvement or replacement. The lack of adequate military family housing (MFH) forces many military personnel and their families to live in housing in need of repair, renovation, or replacement, or to live off-base where the cost and quality of housing vary considerably. Congress enacted the Military Housing Privatization Initiative (MHPI) as part of the National Defense Authorization Act for Fiscal Year 1996 to create alternative authorities for improvement and construction of MFH.

Consistent with the USAF MHPI, the Air Force proposes to convey MFH units, lease land, and transfer responsibility for providing housing and ancillary support facilities at MacDill Air Force Base (AFB) to a private developer. An environmental assessment (EA) has been prepared in accordance with the National Environmental Policy Act (NEPA) and the Air Force *Environmental Impact Analysis Process* (EIAP) promulgated at Title 32, Code of Federal Regulations (CFR), Part 989, and is incorporated by reference into this finding.

#### **DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVE**

**Proposed Action.** The Air Force proposes to convey 752 MFH units, lease 236.1 acres of land, and transfer responsibility for providing housing and ancillary support facilities at MacDill AFB to a private developer (project owner [PO]). All of the existing MFH units in six neighborhoods would be conveyed to the project owner. The PO would retain 240 recently constructed units, construct 331 new units, demolish 507 units, and maintain for a short-term (up to six years) 5 units and a garage, known as Staff Circle, which is eligible for listing as a district on the National Register of Historic Places (NRHP), resulting in an end-state inventory of 571 MFH units. The Air Force also would grant a fifty-year lease for approximately 221.9 acres of lands underlying parcels A, B1, C, D, and E, including all utilities (except communications systems) and other infrastructure. The Air Force also would grant short-term leases for 14.2 acres of land underlying parcel B2, not to exceed four years, and parcel F (Staff Circle), not to exceed six years.

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**No Action Alternative.** Under the no action alternative, Air Force would not implement the proposed action. The Air Force would be solely responsible to provide for the housing needs of military personnel and family members. It is anticipated that the 240 newly constructed MFH units in parcels A, C, and D would continue to provide adequate housing with only minor maintenance and repairs. The remaining, older 512 MFH units in parcels B1, B2, E, and F would also be used, maintained, and renovated along with the associated infrastructure. However, based on historical trends, it is assumed that the amount of congressional funding for MFH would not change and that the housing maintenance backlog would continue to increase. Additionally, 181 of the total 752 units in the MacDill AFB housing inventory have been identified as surplus. The no action alternative presumes that older, inadequate units would require major renovation and surplus units would be demolished, as enabled by congressional funding.

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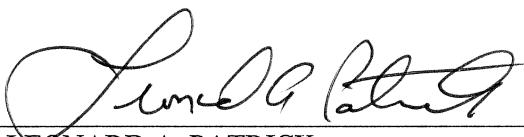
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#### FINDING OF NO SIGNIFICANT IMPACT/ FINDING OF NO PRACTICABLE ALTERNATIVE

Based on the findings of the EA, I conclude that the environmental effects of the proposed privatization of MFH at MacDill AFB are not significant, that preparation of an environmental impact statement is unnecessary, and that a FONSI is appropriate. Pursuant to Executive Order 11988 and the authority delegated by Secretary of the Air Force Order 791.1, and taking the above information into account, I find that there is no practicable alternative to this action and that all measures to minimize potential harm to the coastal floodplain would be taken. The preparation of the attached EA is in accordance with NEPA, Council on Environmental Quality regulations, and 32 CFR Part 989, as amended.



LEONARD A. PATRICK  
Brigadier General (Sel), USAF  
Director, Installations & Mission Support

90807  
Date

Attachment: Environmental Assessment of the Privatization of Military Family Housing at MacDill AFB



## COVER SHEET

### **ENVIRONMENTAL ASSESSMENT OF THE PRIVATIZATION OF MILITARY FAMILY HOUSING AT MACDILL AIR FORCE BASE, FLORIDA**

**Responsible Agencies:** U.S. Air Force (USAF), Headquarters Air Mobility Command (AMC), Scott Air Force Base (AFB), Illinois; and MacDill AFB, Florida

**Affected Location:** MacDill AFB

**Proposed Action:** Privatization of Military Family Housing (MFH) at MacDill AFB

**Report Designation:** Environmental Assessment (EA)

**Abstract:** Consistent with the USAF Housing Privatization Program, AMC proposes to convey MFH units, grant leases of land, and transfer responsibility for providing housing at MacDill AFB to a private developer (the Project Owner [PO]). MacDill AFB has 752 MFH units. Under the Proposed Action, all 752 MFH units would be conveyed to the PO. The PO would demolish 507 units, continue use of 240 units in their current condition, construct 331 new units, and maintain five historic units (short-term); 571 MFH units would be left in the MacDill AFB inventory at the end of the transition period once the lease for the historic units has ended. A total of 236.1 acres of land would be leased to the PO; 221.9 acres would be under a 50-year lease, and 14.2 acres would be under a short-term lease (four to six years) and revert back to MacDill AFB at the close of the lease.

An EA has been prepared to evaluate the Proposed Action and alternatives, including the No Action Alternative, and to aid in determining whether an Environmental Impact Statement is needed. Resources that are considered in the impact analysis include noise, land use, air quality, safety, geological resources, water resources, biological resources, cultural resources, socioeconomic resources and environmental justice, infrastructure, and hazardous materials and wastes. The EA was made available to the public for review.

Written comments and inquiries regarding this document should be directed to Mr. Jason Kirkpatrick, 6 CES/CEVN, 2610 Pink Flamingo Avenue, MacDill AFB, FL 33621.

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**ENVIRONMENTAL ASSESSMENT  
OF THE PRIVATIZATION  
OF MILITARY FAMILY HOUSING  
AT MACDILL AIR FORCE BASE, FLORIDA**

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**HEADQUARTERS AIR MOBILITY COMMAND  
COMMUNITY PLANNING BRANCH  
507 SYMINGTON DRIVE  
SCOTT AIR FORCE BASE, ILLINOIS 62225-5022**

**SEPTEMBER 2007**

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**ENVIRONMENTAL ASSESSMENT  
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## APPENDICES

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- C Interagency Coordination and Public Review**
- D Programmatic Agreement between the U.S. Air Force, the Florida State Historic Preservation Officer, and the Advisory Council on Historic Preservation regarding the Privatization of the Staff Circle General Officers' Quarters**
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## **1. Purpose, Need, and Scope**

This Environmental Assessment (EA) describes and analyzes the Air Mobility Command's (AMC) proposal to privatize military family housing (MFH) at MacDill Air Force Base (AFB), Florida. This section presents background information, the purpose of and need for privatized MFH, location and mission of MacDill AFB, the scope of environmental review, and an introduction to the organization of this document.

### **1.1 Background**

The U.S. Air Force (USAF) operates and maintains approximately 104,000 MFH units at its installations throughout the United States. More than 38 percent of all units do not meet current modern standards and require either major improvement or replacement. At most installations the demand for adequate on-installation housing exceeds supply. The lack of adequate MFH forces many military members and their families to live in on-installation housing in need of repair, renovation, or replacement; or requires them to live off-installation where the cost and quality of housing can vary considerably. Often, the cost to military members and their families to live off-installation is 15 to 20 percent greater than the cost to live on-installation. The USAF estimates that as much as \$7 billion would be needed to bring its on-installation housing up to current standards and to address the deficit of housing through the addition of 5,000 new housing units (AFCEE 2004).

In recognition of these problems, Congress enacted Section 2801 of the National Defense Authorization Act for Fiscal Year (FY) 1996 (Public Law [P.L.] 104-106, codified at Title 10 of the United States Code [U.S.C.] Sections 2871–2885). Also known as the Military Housing Privatization Initiative (MHPI), this provision of law creates alternative authorities for improvement and construction of MFH (see **Appendix A**). The legislative intent of Congress in enacting these additional authorities was to enable the military to obtain private sector funding to satisfy MFH requirements. By leveraging scarce public funding, the USAF can obtain private sector funds for construction, maintenance, management, renovation, replacement, rehabilitation, and development of USAF MFH and ancillary supporting facilities. The Department of Defense (DOD) has asked the USAF to upgrade all required, inadequate housing before FY 2010.

### **1.2 Purpose of and Need for the Proposed Action**

Consistent with the USAF Housing Privatization Program, Headquarters AMC proposes to convey MFH units, grant leases of land, and transfer responsibility for providing housing and ancillary supporting facilities at MacDill AFB in Tampa, Florida, to a private developer (the Project Owner [PO]).

The purpose of the Proposed Action is to vest responsibility in a private developer for MFH at MacDill AFB. The need for the Proposed Action is to provide affordable, quality housing and ancillary facilities to military members and their families through replacement and renovation of existing family housing units so that they meet current USAF standards.

Substantial portions of the MFH inventory at MacDill AFB exhibit a principal concern facing MFH throughout the USAF: many MFH units are in poor condition. At MacDill AFB, there are many MFH units that show signs of age and continuous use to such extent that they warrant demolition. Many units are not energy-efficient, and housing density is too high in some neighborhoods. Housing interiors are inadequate by modern criteria in that bedroom closets, kitchen storage, and kitchen counter space are insufficient; and plumbing, electrical systems, and heating, ventilation, and air conditioning (HVAC) are inefficient.

## 1.3 Location and Mission

MacDill AFB originated as the Southeast Air Base in April 1941. The installation was renamed MacDill Field in honor of Colonel Leslie MacDill, and became MacDill AFB in 1947. The installation initially provided transitional training in the B-17 “Flying Fortress,” and in 1942 the installation’s mission converted to B-26 “Marauder” training until 1943, at which time it resumed B-17 training. After World War II, MacDill AFB became part of the Strategic Air Command and provided training in a number of aircraft. In 1963, MacDill AFB became a Tactical Air Command base. The Rapid Deployment Joint Task Force, forerunner of U.S. Central Command, activated at MacDill AFB in 1983. In 1991, actions of the Defense Base Closure and Realignment Commission caused all flying operations at MacDill AFB to cease by 1993. The installation became home to the 6th Air Base Wing in 1994, with a primary mission of operating the installation in support of U.S. Central Command, U.S. Special Operations Command, and a large number of tenant and transient units. As a result of the 1995 Defense Base Closure and Realignment Commission, the installation’s host wing was redesignated as the 6th Air Refueling Wing in 1996, marking a new era for MacDill AFB with the addition of a KC-135 squadron and mission. With approximately 12,000 military personnel assigned to the installation today, MacDill AFB has 752 MFH units (MAFB 2002). The location of MacDill AFB is shown in **Figure 1-1**.

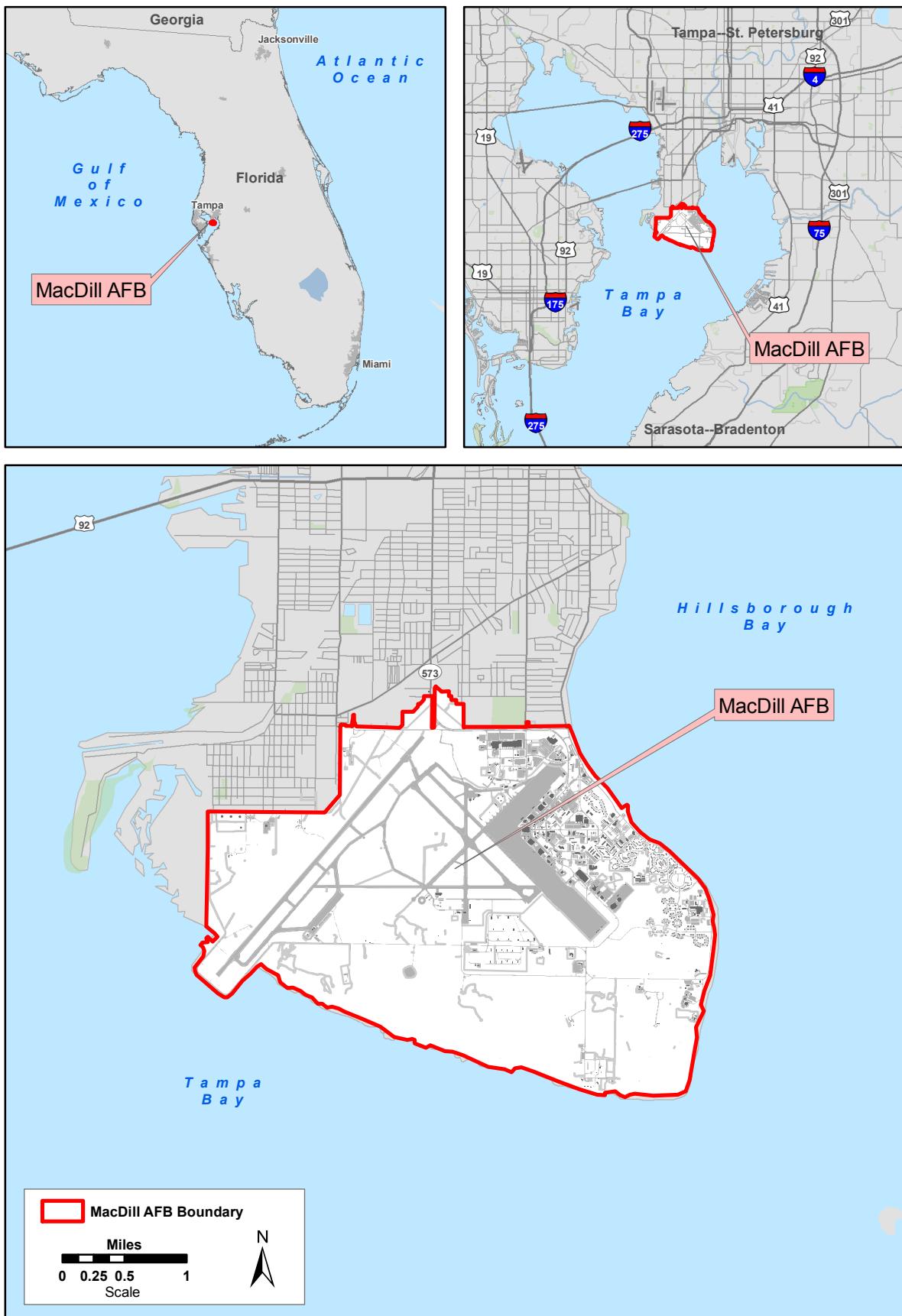
## 1.4 Summary of Key Environmental Compliance Requirements

### 1.4.1 National Environmental Policy Act

The National Environmental Policy Act (commonly referred to as “NEPA”) (42 U.S.C. Section 4321–4347) is a Federal statute requiring the identification and analysis of potential environmental impacts associated with proposed Federal actions before those actions are taken. The intent of NEPA is to help decision makers make well-informed decisions based on an understanding of the potential environmental consequences and take actions to protect, restore, or enhance the environment. NEPA established the Council on Environmental Quality (CEQ) that was charged with the development of implementing regulations and ensuring Federal agency compliance with NEPA. The CEQ regulations mandate that all Federal agencies use a prescribed structured approach to environmental impact analysis. This approach also requires Federal agencies to use an interdisciplinary and systematic approach in their decision-making process. This process evaluates potential environmental consequences associated with a proposed action and considers alternative courses of action.

The process for implementing NEPA is codified in Title 40 of the Code of Federal Regulations (CFR), Parts 1500–1508, *Regulations for Implementing the Procedural Provisions of the National Environmental Policy Act*. The CEQ was established under NEPA to implement and oversee Federal policy in this process. The CEQ regulations specify that an EA be prepared to briefly provide evidence and analysis for determining whether to prepare a Finding of No Significant Impact (FONSI)/Finding of No Practicable Alternative (FONPA), where a FONPA is appropriate (see **Section 1.4.2**), or whether the preparation of an Environmental Impact Statement (EIS) is necessary. The EA can aid in an agency’s compliance with NEPA when an EIS is unnecessary and facilitate preparation of an EIS when one is required.

Air Force Policy Directive (AFPD) 32-70, *Environmental Quality*, states that the USAF will comply with applicable Federal, state, and local environmental laws and regulations, including NEPA. The USAF’s implementing regulation for NEPA is *Environmental Impact Analysis Process (EIAP)*, 32 CFR Part 989, as amended.



Source: ESRI StreetMap USA 2005

**Figure 1-1. MacDill AFB and Surrounding Area**

## 1.4.2 Integration of Other Environmental Statutes and Regulations

To comply with NEPA, the planning and decision-making process for actions proposed by Federal agencies involves a study of other relevant environmental statutes and regulations. The NEPA process, however, does not replace procedural or substantive requirements of other environmental statutes and regulations. It addresses them collectively in the form of an EA or EIS, which enables the decision maker to have a comprehensive view of major environmental issues and requirements associated with the Proposed Action. According to CEQ regulations, the requirements of NEPA must be integrated “with other planning and environmental review procedures required by law or by agency so that all such procedures run concurrently rather than consecutively.”

The EA examines potential effects of the Proposed Action and alternatives on 11 resource areas: noise, land use, air quality, safety, geological resources, water resources, biological resources, cultural resources, socioeconomic resources and environmental justice, infrastructure, and hazardous materials and wastes. These resources were identified as being potentially affected by the Proposed Action and include applicable elements of the human environment that are prompted for review by Executive Order (EO), regulation, or policy.

EO 11988, *Floodplain Management*, states that if the head of an agency finds that the only practicable alternative is development within a floodplain, the agency shall design or modify its action to minimize potential harm to or within the floodplain, and prepare and circulate a notice explaining why the action is proposed within a floodplain. In accordance with EO 11988 and 32 CFR Part 989, a FONPA must accompany the FONSI stating why there are no practicable alternatives to development within the floodplain.

**Appendix B** contains examples of relevant laws, regulations, and other requirements that are often considered as part of the analysis. Where useful to better understanding, key provisions of the statutes and EOs described in **Appendix B** will be discussed in more detail in the text of the EA.

## 1.4.3 Interagency Coordination and Public Involvement

NEPA requirements help ensure that environmental information is made available to the public during the decision-making process and prior to actions being taken. The premise of NEPA is that the quality of Federal decisions will be enhanced if proponents provide information to the public and involve the public in the planning process. The Intergovernmental Coordination Act and EO 12372, *Intergovernmental Review of Federal Programs*, require Federal agencies to cooperate with and consider state and local views in implementing a Federal proposal. AFI 32-7060, *Interagency and Intergovernmental Coordination for Environmental Planning* (IICEP), requires the USAF to implement the IICEP process, which is used for the purpose of agency coordination and implements scoping requirements.

Headquarters AMC initiated the IICEP process on July 11, 2006, by notifying relevant Federal, state, and local agencies of the Proposed Action. Agencies were provided a 30-day review period to make known their environmental concerns specific to the action. The IICEP process provided MacDill AFB the opportunity to cooperate with and consider state and local views in implementing the Federal proposal. **Appendix C** includes all IICEP materials.

A Notice of Availability for the Draft EA and FONSI/FONPA was published on July 27, 2007, in *The Tampa Tribune* announcing the 30-day public review period. Four responses were received: one from the U.S. Fish and Wildlife Service, one from the National Oceanic and Atmospheric Administration, one from the Miccosukee Tribe of Indians of Florida, and one from the Seminole Tribe of Florida. These letters are included in **Appendix C**. No concerns were expressed in these responses.

## **1.5 Organization of this Document**

This EA is organized into seven sections. **Section 1** provides the purpose of and need for the Proposed Action. **Section 2** contains a description of the Proposed Action, Alternatives, and the No Action Alternative. **Section 3** contains a general description of the biophysical resources and baseline conditions that could potentially be affected by the Proposed Action or Alternatives. **Section 4** presents an analysis of the potential environmental consequences of implementing the Proposed Action or Alternatives. **Section 5** includes an analysis of the potential cumulative impacts at MacDill AFB. **Section 6** lists the preparers of the document. **Section 7** lists the references used in the preparation of the document.

**Appendix A** contains the text of the MHPI as codified in 10 U.S.C. 2871–2885. **Appendix B** contains applicable laws, regulations, policies, and planning criteria potentially relevant to NEPA analysis. **Appendix C** includes all IICEP materials and public review materials. **Appendix D** contains the Programmatic Agreement between the U.S. Air Force, the Florida State Historic Preservation Officer, and the Advisory Council on Historic Preservation regarding the privatization of the Staff Circle General Officers' Quarters. **Appendix E** contains the desired features for MacDill AFB privatized housing units. **Appendix F** contains the consistency determination associated with the Proposed Action. **Appendix G** details the potential air emissions associated with the Proposed Action.

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## 2. Description of the Proposed Action and Alternatives

This section presents information on the USAF's Housing Privatization Program and the Proposed Action under that initiative. **Section 2.1** describes how the Proposed Action would be implemented at MacDill AFB and **Section 2.2** identifies alternatives to the Proposed Action, including the No Action Alternative. Implementation of the Proposed Action, as described in **Section 2.1**, is MacDill AFB's preferred alternative.

### 2.1 Proposed Action

Consistent with the USAF Housing Privatization Program, Headquarters AMC proposes to convey 752 MFH units, grant leases of 236.1 acres of land, and transfer responsibility for providing housing and ancillary supporting facilities at MacDill AFB to the PO.

MacDill AFB has MFH units in six neighborhoods, which are divided into seven leasing parcels. These neighborhoods (and their number of MFH units) are Chevron Park–Parcel A (70), Wherry–Parcels B1 and B2 (487), Heritage Cove–Parcel C (94), Liberty Cove–Parcel D (76), McClelland–Parcel E (20), and Staff Circle–Parcel F (5). **Figure 2-1** shows the general location of MFH on MacDill AFB. **Figure 2-2** shows the locations of the six MFH neighborhoods and the boundaries of the seven parcels.

Parcel F includes five MFH units and one garage. Together, these buildings comprise the Staff Circle General Officers' Quarters (GOQ), which is eligible for listing on the National Register of Historic Places (NRHP) as an historic district. Under the Proposed Action, this eligible historic district would be conveyed to the PO and the land would be subject to a short-term lease; the long-term disposition of these units has not been determined. Staff Circle will be used as privatized housing only until the construction of new GOQ MFH units is complete. The USAF has satisfied responsibilities under Section 106 of the National Historic Preservation Act (NHPA) regarding Staff Circle through the NEPA process applied to produce this EA, as provided for in 36 CFR 800.8(c). Correspondence between the USAF, the Florida State Historic Preservation Officer (SHPO), and the Advisory Council on Historic Preservation (ACHP) is included in **Appendix D**. Parcel F is subject to a Programmatic Agreement (PA) that satisfies 36 CFR 800.5 by providing adequate and legally enforceable restrictions to ensure the preservation of the property's historic significance after transfer out of Federal ownership or control. Any modifications to these units that are not identified in the PA as approved exempt activities would require coordination with the SHPO.

The USAF Housing Privatization Program incorporates the MHPI legislation enacted by Congress in 1996. **Appendix A** contains the MHPI on which the USAF Housing Privatization Program and the Proposed Action are based. Application of provisions of the USAF Housing Privatization Program would be tailored to MacDill AFB's specific circumstances and requirements.

#### 2.1.1 Initial Transactions

Under the Proposed Action, MacDill AFB would execute agreements with the PO to convey real property, lease land, and have the PO assume responsibility to operate a rental housing development for the benefit of USAF and other personnel. Under agreements with MacDill AFB to operate a rental housing development, the PO would be responsible to plan, design, develop, renovate, demolish, construct, own, operate, maintain, and manage all necessary assets for MFH and designated ancillary supporting facilities. In exchange for providing housing, the PO would become entitled to rental income based on each occupant's Basic Allowance for Housing (BAH).

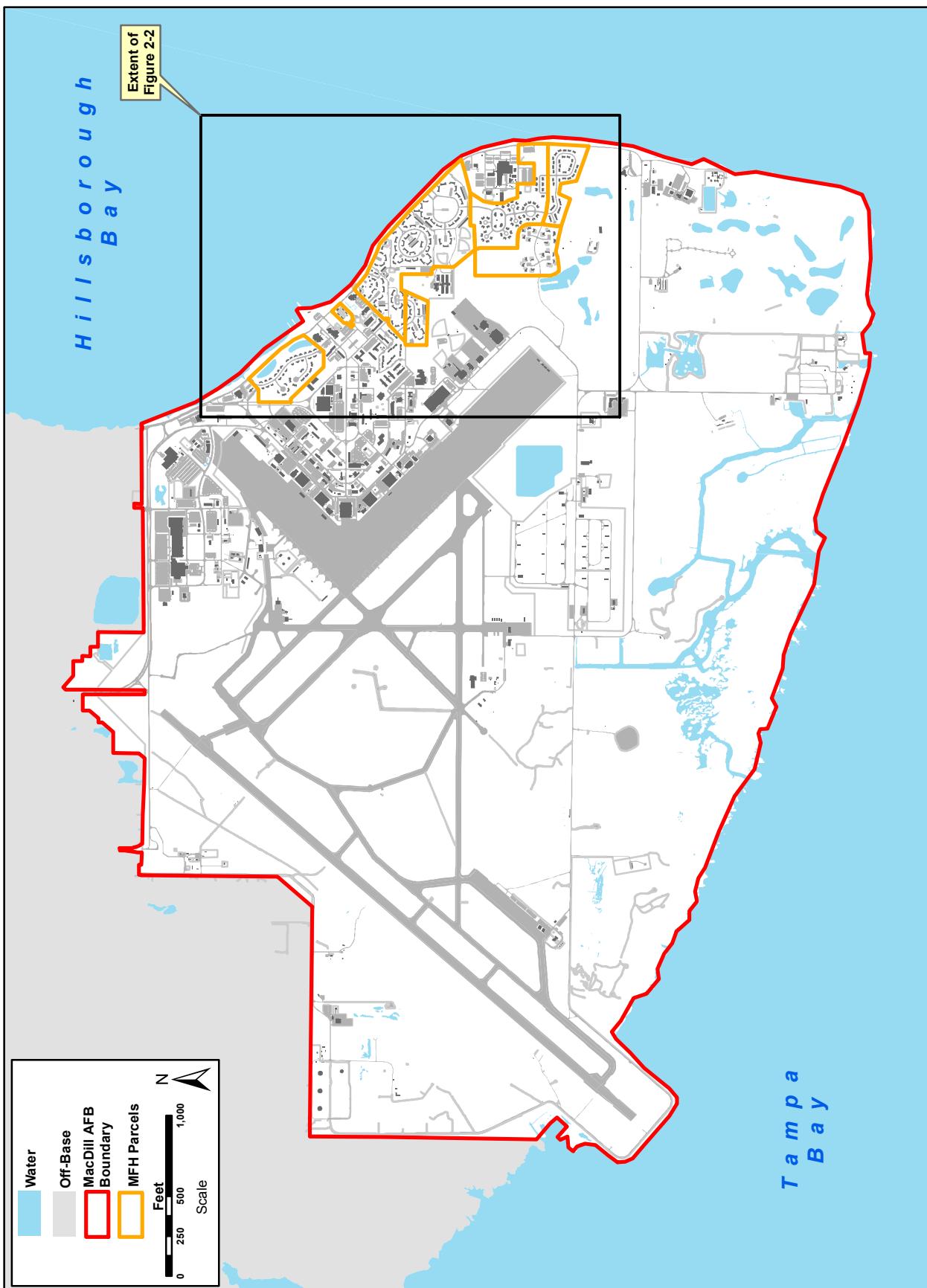


Figure 2-1. General MFH Area



Figure 2-2. MFH Parcels

Results of the revised Housing Requirements and Marketing Analysis (HRMA)<sup>1</sup> indicate that MacDill AFB should have 571 MFH units (AMC 2006a). Under the privatization agreement with the PO would reduce the installation's MFH inventory from 752 units to an end-state inventory of 571 units. Specific transactions that would occur between MacDill AFB and the PO would be as follows:

- MacDill AFB would convey all 752 existing MFH units to the PO.
- MacDill AFB would grant 50-year leases for 221.9 acres of land underlying Parcels A, B1, C, D, and E (refer to **Figure 2-2** for parcel boundaries).
- MacDill AFB would grant short-term leases for 14.2 acres of land underlying Parcels B2 (not to exceed four years) and F (not to exceed six years) (refer to **Figure 2-2** for parcel boundaries).
- The PO would demolish 507 units, continue use of 240 units in their present condition, and construct 331 new units. The PO would use the five units in Parcel F as MFH only until construction is complete on the new GOQ units.
- The five units and one garage that comprise the Staff Circle GOQ, which is eligible for listing on the NRHP as an historic district (Parcel F), would also be conveyed. The historical qualities of this parcel will be protected with a PA. Any modifications to these units that are not identified in the PA as approved exempt activities would require coordination with the SHPO.

**Table 2-1** indicates the actions that would be taken with respect to the current MFH inventory. The actions presented in **Table 2-1** represent a combination of construction, demolition, and renovation that would produce an end-state inventory of 571 MFH units.

The actions shown in **Table 2-1** would occur at various times within the first six years of the 50-year privatization program. For the purposes of analyses in this EA, it is assumed that construction, demolition, and renovation activities would occur evenly over the six years of the transition period.

## 2.1.2 Project Objectives

The USAF Housing Privatization Program has identified several desired features for new construction and renovation of MFH, its privatized communities, facilities maintenance, and property management. These desired features are intended to result in substantial improvements in the overall quality of housing for personnel. In addition to the desired features articulated in the USAF Housing Privatization Program, MacDill AFB has identified additional features for implementation at the installation. The required and desired features for MFH for new housing and renovations are shown in **Appendix E**.

## 2.1.3 Operational Provisions

The following identify relevant matters pertaining to the proposed privatization of MFH.

**Transition Plan.** Implementation of the Proposed Action would include reliance on a transition plan prepared by the PO and approved by MacDill AFB. The plan would include project development, phasing out of existing units, the means by which the PO would maintain the availability of units, and the methodology for providing utilities and services during and after the transition period. The transition period would begin upon completion of contractual matters initiating the Proposed Action and would last for up to six years. During the transition period, the number of available MFH units would be gradually reduced from 752 to 571 units, but at no time would there be fewer than 571 units available. At all times during the transition period, sufficient numbers of units for all eligible pay grades would be maintained.

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<sup>1</sup> DOD guidance states that the local community should be the first source for satisfying the demand for housing generated by military families. The HRMA identifies current and projected supply and demand for family housing and analyzes the local housing market to determine its ability to provide suitable housing for military personnel.

**Table 2-1. Conveyance of Existing Housing by Area**

<b>Parcel</b>	<b>Housing Area (Acreage)</b>	<b>Acreage</b>	<b>Number of Existing Units (Year Built)</b>	<b>Proposed Action</b>	<b>Proposed Lease Term</b>
A	Chevron Park	30.9	70 (2000–2005)	Use 70 “as is”	50 years
B1	Wherry	93.2	420 (1951–1955)	Demolish 420	50 years
B2	Wherry	11.3	67 (1951–1955)	Demolish 67	Short-term <sup>a</sup>
C	Heritage Cove	43.0	94 (2000–2005)	Use 94 “as is”	50 years
D	Liberty Cove	21.5	76 (2005)	Use 76 “as is”	50 years
E	McClelland	33.3	20 (1966)	Demolish 20	50 years
F	Staff Circle <sup>b</sup>	2.9	5 (1941)	Use 5 “as is”	Short-term <sup>b</sup>
Note <sup>c</sup>		NA		Construct 331 <sup>c</sup>	50 years
<b>Total</b>		<b>236.1</b>	<b>752</b>	<b>End-State: 571 Demolish 507 Use “as is” 245 Construct 331 Use “as is” 5 (short-term)</b>	<b>50-year: 221.9 acres Short-term: 14.2 acres</b>

## Notes:

<sup>a</sup> The short-term lease would terminate upon demolition of the existing MFH units on this parcel. The parcel would revert back to MacDill AFB.

<sup>b</sup> The Staff Circle property includes a total of six buildings (five MFH units), which comprise the Staff Circle GOQ. This area is eligible for listing on the NRHP as an historic district. The proposed lease would terminate once construction of the new replacement GOQs is complete or after six years, whichever occurs first.

<sup>c</sup> Construction of 331 MFH units would occur only in Parcels A, B1, C, D, or E. The exact locations of the 331 units would be at the discretion of the PO, within the boundaries of the leased land.

**Lease of Land.** The USAF would grant the PO a lease of approximately 236.1 acres as shown in the parcels identified in **Table 2-1**. Leasing of the housing area parcels would be subject to several conditions imposed by the USAF. The lease would be subject to all existing easements, or those subsequently granted, as well as established access routes for roadways and utilities located, or to be located, on the premises. The lease would do the following:

- Prohibit the PO from storing hazardous wastes (above those quantities generated in routine operations and immediately disposed of) or taking any actions that would cause irreparable injury to the land. The PO would be required to comply with all Federal, state, interstate, or local applicable laws, regulations, conditions, or instructions affecting its activities. The USAF would include clauses in the lease permitting the USAF’s periodic inspection of the property to ensure its safe condition and its proper use in accordance with the terms of the lease.

- Prohibit operation by the PO of satellite hazardous waste accumulation sites on MacDill AFB. The PO would be responsible for appropriate storage and disposal of hazardous waste and universal waste (e.g., fluorescent bulbs, batteries, thermostats). The PO would be responsible for any environmental fines or penalties arising from accidental, negligent, or intentional acts on the property. The PO would be responsible for the costs of disposing of solid waste generated by the MFH construction and subsequent housing use. Solid waste generated would be disposed of off-installation at the PO's expense.
- Prohibit the use of asbestos or asbestos-containing material (ACM) or lead-based paint (LBP) in the construction of new housing units.
- Prohibit discharge of waste or effluent from the premises in such a manner that the discharge would contaminate streams or other bodies of water or otherwise become a public nuisance.
- Prohibit removal or disturbance of, or causing or permitting to be removed or disturbed, any historical, archaeological, architectural, or cultural artifacts, relics, remains, or objects of antiquity. In the event such items should be discovered, the PO would be required to notify the installation commander or his designated representative and immediately protect the site and the material from further disturbance.
- Require maintenance of all soil and water conservation structures and the taking of appropriate measures to prevent or control soil erosion within the premises. These measures would be addressed in permits (e.g., Clean Water Act [CWA] Section 404 permit) and in storm water pollution prevention plans (SWPPPs). The PO would be required to comply with all applicable permits, including the storm water permit and accompanying SWPPP.
- Prohibit the cutting of timber; mining operations; and the removal of sand, gravel, or like substances from the ground.

Federal laws, regulations, and EO<sup>s</sup>, such as the CWA; Endangered Species Act (ESA); Archaeological Resources Protection Act; EO 11988, *Floodplain Management*; and EO 11990, *Protection of Wetlands*, would continue to be applicable and enforced by the USAF on the leased property. Potentially applicable laws, regulations, and EO<sup>s</sup> are summarized in **Appendix B**.

**Conveyances.** All existing MFH units on MacDill AFB would be conveyed to the PO. The USAF would convey this property with encumbrances, notices, and requirements obligating the PO to certain actions. The USAF has completed an Environmental Baseline Survey to determine the location and extent of possible contamination from underground storage tanks (USTs) or other sources. The USAF would identify any easements and rights-of-way that might affect use of conveyed property. These encumbrances would be in the form of covenants in the deed and would be binding on the transferee, as well as any subsequent successors or assigns.

The negotiated terms of transfer require the PO to preserve the historical integrity of the Staff Circle GOQ as an NRHP-eligible historic district. Correspondence with the SHPO is included in **Appendix D**.

**Barrier-free Design.** New MFH and ancillary supporting facilities must adhere to the *Uniform Federal Accessibility Standards* and the *Americans with Disabilities Act Accessibility Guidelines* promulgated by the Access Board (formerly known as the Architectural and Transportation Barriers Compliance Board) pursuant to the Architectural Barriers Act of 1968, Rehabilitation Act of 1973, and Americans with Disabilities Act of 1990. These standards require that at least five percent of new MFH units be designed and built to be accessible, or easily modifiable for access, by persons with physical disabilities.

**Construction and Demolition Standards.** Demolition, construction, and renovation standards reflect consideration of City of Tampa, Hillsborough County, and State of Florida building codes, standards, and regulations. Construction of MFH units would be based on sustainable design and development concepts and would seek to incorporate consideration of matters such as sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality. Design, materials, equipment, and construction methods would reduce energy and water consumption to current Energy Star<sup>2</sup> criteria. Design features would include optimizing glass locations and areas; optimizing insulation in exterior walls, ceilings, and between adjoining units; weatherstripping throughout; and minimizing duct leakage. Attention to construction details, exterior fenestration materials, and passive solar energy systems would be employed whenever possible. The PO would ensure that materials, equipment, and finishes would be durable, low-maintenance, and functional. These measures would improve environmental and economic performance of facilities through the use of established and advanced industry principles, practices, materials, and standards. In accordance with EO 13101, *Greening the Government through Waste Prevention, Recycling, and Federal Acquisition*, the PO would consider recycled products and environmentally preferable purchasing criteria developed by the U.S. Environmental Protection Agency (USEPA).

A Demolition Plan would be established and implemented as part of the overall Construction Management Plan. The Demolition Plan would provide a phased approach to demolition of existing units, appurtenances, and infrastructure. Underground utility mains scheduled for demolition could be capped at the main and abandoned in place; however, the PO would remove all laterals. The contractor would be responsible for handling any ACM and LBP in accordance with applicable laws, including removal, disposal, and abatement. An asbestos disposal plan would identify the proposed disposal site for any ACM. After demolition is complete (including facilities, utilities, and roads and fences, as appropriate), the PO would grade to drain and seed all areas not planned to receive new construction. The PO would haul all debris to a government-approved site off MacDill AFB. Selling or recycling demolition debris would be pursued where possible.

**Operation and Maintenance.** The PO would operate and maintain for 50 years all existing and new MFH units and ancillary supporting facilities, including associated parking lots and sidewalks, in accordance with the quality standards established in privatization program agreements. At MacDill AFB's option, the installation may extend the period of operation and maintenance and the leases of land supporting MFH for an additional 25 years.

**Rental Rates and Payments.** The rental rate to be paid by any military member would not exceed his or her BAH. MacDill AFB would continue to categorize MFH by grade group. Unit rents would be fixed by type of unit. Like BAH, rent would be paid in arrears.

**Utilities.** The PO would pay all utility costs until utility meters are installed on each housing unit. Until meters are installed on each unit, the military member would surrender his or her entire BAH for rent and utilities. No later than the end of the Transition Period (approximately six years), the PO must have individual meters installed on the end-state units. The PO would then establish a fixed rent for those units at an amount not to exceed the BAH rate minus an amount sufficient to cover 110 percent of estimated average reasonable utility charges at the dependent rate of the military grade that the unit is designated for, in accordance with the Project Development Demographics. The PO would pay for all water, sewer, and refuse collection services, including curbside recycling pickup, throughout the duration of the privatization agreement.

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<sup>2</sup> The U.S. Environmental Protection Agency and U.S. Department of Energy promote the use of energy-efficient equipment by awarding the Energy Star label to products that save energy. The agencies set energy efficiency criteria for specific consumer and commercial products. Energy Star products include appliances (e.g., refrigerators, dishwashers, and room air conditioners) and residential HVAC equipment (e.g., programmable thermostats, boilers, furnaces, heat pumps, and central air conditioners).

**Occupancy Guarantee.** MacDill AFB would not guarantee the level of occupancy of MFH by military members. The MacDill AFB Housing Maintenance Office would provide “Referral Tenants.” All military personnel assigned to the local area would be required to process through the MacDill AFB Housing Maintenance Office upon arrival prior to signing a lease for housing. Freedom of housing choice would be preserved. The PO would compile and maintain a waiting list. After the transition period, if vacancy rates exceed five percent for more than three consecutive months, the PO may rent to other eligible tenants at unrestricted rental rates. Should this type of situation arise, the PO would be allowed to fill only the number of rental units necessary to bring the vacancy rate to five percent. Offering of vacant units to other eligible tenants would be based on a priority list. Other eligible tenants would include (listed in descending order of priority):

- Other active-duty military members and families (including unaccompanied military members)
- Federal civil service employees
- Retired military members and families
- Guard and Reserve military members and families
- Retired Federal civil service employees
- DOD contractor or permanent employees (U.S. citizens)
- Members of the general public (with prior written notice to the government).

**Jurisdiction.** Legislative jurisdiction of family housing areas at MacDill AFB is exclusive. The term “exclusive legislative jurisdiction” is applied when the Federal government possesses, by whatever method acquired, all the authority of the state, and in which the state concerned has not reserved to itself the right to exercise any of the authority concurrently with the United States except the right to serve civil or criminal process in the area relative to activities which occurred outside the area. Privatization would not change existing legislative jurisdiction. The government would, however, reserve the right to change the jurisdiction of the leased parcels at any time. Such change would not be the basis for a claim by the PO for property taxes or other costs.

**Municipal Services.** MacDill AFB would provide fire, law enforcement services, and other emergency services to MFH. The level of service would include emergency response and force protection. The PO would reflect these costs in its operating budget and reimburse the installation’s service agency for all actual costs incurred for this level of service.

## 2.2 Alternatives

AMC has identified three alternatives to the Proposed Action, as well as the No Action Alternative. These alternatives are presented below.

### 2.2.1 Alternatives for Family Housing

**The Partial Privatization Alternative.** Under this alternative, MacDill AFB would privatize only a portion of the installation’s MFH inventory. Family housing in good condition (not needing demolition or renovation) would remain subject to USAF management for maintenance and operational control.

Privatization of only a portion of MacDill AFB’s MFH inventory would have several substantial drawbacks. First, the condition of the MFH retained by the USAF would change over time, resulting in a need for its renovation or replacement. Failure to include the entire inventory of housing in the

privatization transaction would only delay action to provide adequate housing for airmen and their dependents. Second, two management regimes (the USAF's and the PO's) would not be as cost-effective as one. From a private developer's perspective, maximum potential cash flow is important to support development and operation of the ancillary supporting facilities desired by the installation, activities that traditionally do not provide independent sources of revenue to sustain them. Together, these factors render consideration of partial privatization at MacDill AFB not feasible and, therefore, such an alternative will not be evaluated in detail in the EA.

**The Private Sector Reliance Alternative.** Under this alternative, MacDill AFB would rely solely on the private sector to meet the housing needs of personnel assigned to the installation. The installation would terminate MFH programs, dispose of existing MFH units, and convert the land now supporting housing areas to other uses.

The alternative is premised, in part, on the view that competitive marketplace forces would lead to the creation of sufficient affordable, quality MFH. Data vary, but, in general, experience has shown that military members and their families living off-installation must cover between 15 and 20 percent of their costs out-of-pocket. Moreover, living on-installation has several intangible benefits to military members and their families. These include camaraderie and esprit de corps among the military personnel, a sense of "family" among dependents (especially during military deployments), proximity to the workplace (thereby avoiding lengthy commutes), and each military member's comfort level in knowing that his or her dependents are residing in a safe community while they are deployed or serving on temporary duty at a distant location.

As a practical matter, termination of MacDill AFB MFH would prove difficult. If MFH were to be terminated over a period of years, without maintenance funding, the existing housing would become unsuitable because of age or necessity of repairs. Residents could then find themselves living in blighted and partially abandoned neighborhoods. If MFH were to be terminated at once, it is unlikely that the private sector could provide the requisite amount of affordable, quality housing units, as well as schools, shops, roads, and other support amenities, on short notice.

Termination of MFH programs would involve abandonment of immense investments in those facilities. The various consequences of reliance on the private sector and the management difficulties of effecting termination of USAF MFH would prove challenging. In light of the aggregate value of MFH units amenable to continued use with only minor renovations, termination of a family housing construction and maintenance program would gravely contravene the fiscal responsibilities that the U.S. Congress expects of the USAF. For these reasons, this alternative is not reasonable and will not be evaluated in detail in the EA.

**The Leasing Alternative.** Statutory authorities exist for MacDill AFB to ensure availability of adequate, affordable housing through use of long-term leases of housing for military family use. Key aspects of the two laws providing these authorities are summarized below.

- *Long-term leasing of military family housing to be constructed.* Family housing obtained through use of this authority, which appears at 10 U.S.C. 2835, is most often referred to as "Section 801 housing." Under this authority, the USAF may, through competitive contract procedures, have a developer build or renovate (to residential use) family housing units near an installation. Housing units under this authority must meet DOD specifications. The USAF may then lease the units for use as MFH for a period of not more than 20 years. At the end of the lease term, the USAF has the option to purchase the MFH units from the PO.

- *Military housing rental guarantee program.* Family housing obtained through use of this authority, which appears at 10 U.S.C. 2836, is most often referred to as “Section 802 housing.” Under this authority, the USAF may award a competitive contract to a private developer or a state or local housing authority to construct or rehabilitate housing on or near an installation having a shortage of housing for personnel with or without accompanying dependents. The USAF contractually guarantees the occupancy levels of the housing units, at rental rates comparable to those for similar units in the same general market. Housing units under this authority must comply with DOD specifications or, at the discretion of the Service secretary, local building codes. A rental guarantee agreement may not exceed 25 years in duration; it may be renewed only for housing on government-owned land. The agreement may provide that utilities, trash collection, and entomological services be furnished by the USAF at no cost to the occupant to the same extent such services are provided to occupants of installation MFH.

USAF-wide, there has been only limited experience with either of the foregoing authorities. An important drawback of the Section 801 and Section 802 housing programs is related to what is known as budget “scoring,” the method of accounting for Federal government obligations as required by the Budget Enforcement Act of 1990. Scoring ensures that all government obligations are accounted for when long-term liability is incurred (during the first year of a project). Scoring guidelines issued by the Federal Office of Management and Budget require that a project be fully funded with sufficient budget authority in its first year to cover the government’s long-term commitment. In other words, all potential costs associated with long-term leasing or rental guarantee programs must be recognized in the first year, and they must be considered part of the USAF’s total obligation authority (the total monies appropriated by Congress for use by the USAF in a given year). For some privatization projects, such as military-leased housing, the USAF’s obligations for scoring purposes amount to the net present value of the total rent under the lease. These amounts can be nearly as great as the sums required under traditional military construction financing for USAF-initiated construction of similar facilities.

The Section 801 housing program and Section 802 rental guarantee program only partially address the purpose of and need for the Proposed Action. Because of the scoring guidelines, the USAF would obtain very little or no leverage benefit.

The enactment of new authorities in the MHPI suggests Congress’s recognition that the drawbacks of Section 801 and Section 802 outweigh the potential benefits to the USAF. Although use of the authorities in either Section 801 or Section 802 or both would be possible, their use would not be reasonable when compared with the greater flexibility and economic advantages of the new authorities offered by the MHPI to the USAF and its members’ families. Accordingly, this alternative will not be evaluated in detail in the EA.

## **2.2.2 The No Action Alternative**

CEQ regulations require inclusion of the No Action Alternative. The No Action Alternative serves as a baseline against which the impacts of the Proposed Action and Alternatives can be evaluated. Under the No Action Alternative, AMC would not implement the Proposed Action. MacDill AFB would continue to provide for the housing needs of military personnel and family members.

MacDill AFB has 240 MFH units (in Parcels A, C, and D) that have been constructed within the past six years. It is anticipated that these newly constructed MFH units would continue to provide adequate housing for many years into the future with only minor maintenance and repairs.

The remainder of the MFH units (512 units in Parcels B1, B2, E, and F) would also continue to be used. These units are substantially older (40 to 65 years old) and would require more intensive maintenance and

renovations to bring them up to current USAF housing standards. Under the No Action Alternative, it is anticipated that these older MFH units would continue to be maintained and renovated as needed. Based on historical trends, it is assumed that the amount of Congressional funding for MFH would not change and that the housing maintenance backlog would continue to increase. In their existing condition, these MFH units are inadequate facilities.

Results of the revised HRMA (see discussion in **Section 2.1.1**) indicate that MacDill AFB should have no more than 571 MFH units (AMC 2006a). Under the No Action Alternative, MacDill AFB would have a surplus of 181 MFH units. It is assumed under the No Action Alternative that surplus units would either continue to be maintained or renovated. The maintenance and renovation of these surplus units would be an unnecessary and costly burden to the USAF.

Under the No Action Alternative, MacDill AFB would continue to maintain and upgrade infrastructure components as required. Some of the utilities systems and pavements in the MFH parcels are old and require upgrades or replacements to improve overall level of service and efficiency.

Considering that 512 of the existing MFH units are inadequate, and that 181 of those 512 MFH units are in excess of what MacDill AFB would need to provide housing to military families, the No Action Alternative presumes that inadequate and surplus units would require major renovation or demolition activities at some point in the future; those activities would require additional NEPA analyses at that time.

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### 3. Affected Environment

This section describes the environmental resources and conditions potentially affected by the Proposed Action and provides information to serve as a baseline for identifying and evaluating environmental and socioeconomic changes likely to result from implementation of the Proposed Action. Baseline conditions represent current conditions. The potential environmental consequences of the Proposed Action and the No Action Alternative are described in **Section 4**. In compliance with NEPA, CEQ guidelines, and 32 CFR Part 989, as amended, the description of the affected environment focuses on those resources and conditions potentially subject to impacts.

#### 3.1 Noise

##### 3.1.1 Definition of the Resource

Sound is defined as a particular auditory effect produced by a given source, for example the sound of rain on the roof. Sound is measured with instruments that record instantaneous sound levels in decibels (dB). A-weighted decibels (dBA) are used to characterize sound levels that can be sensed by the human ear. “A-weighted” denotes the adjustment of the frequency content of a noise event to represent the way in which the average human ear responds to the noise event. All sound levels analyzed in this EA are A-weighted.

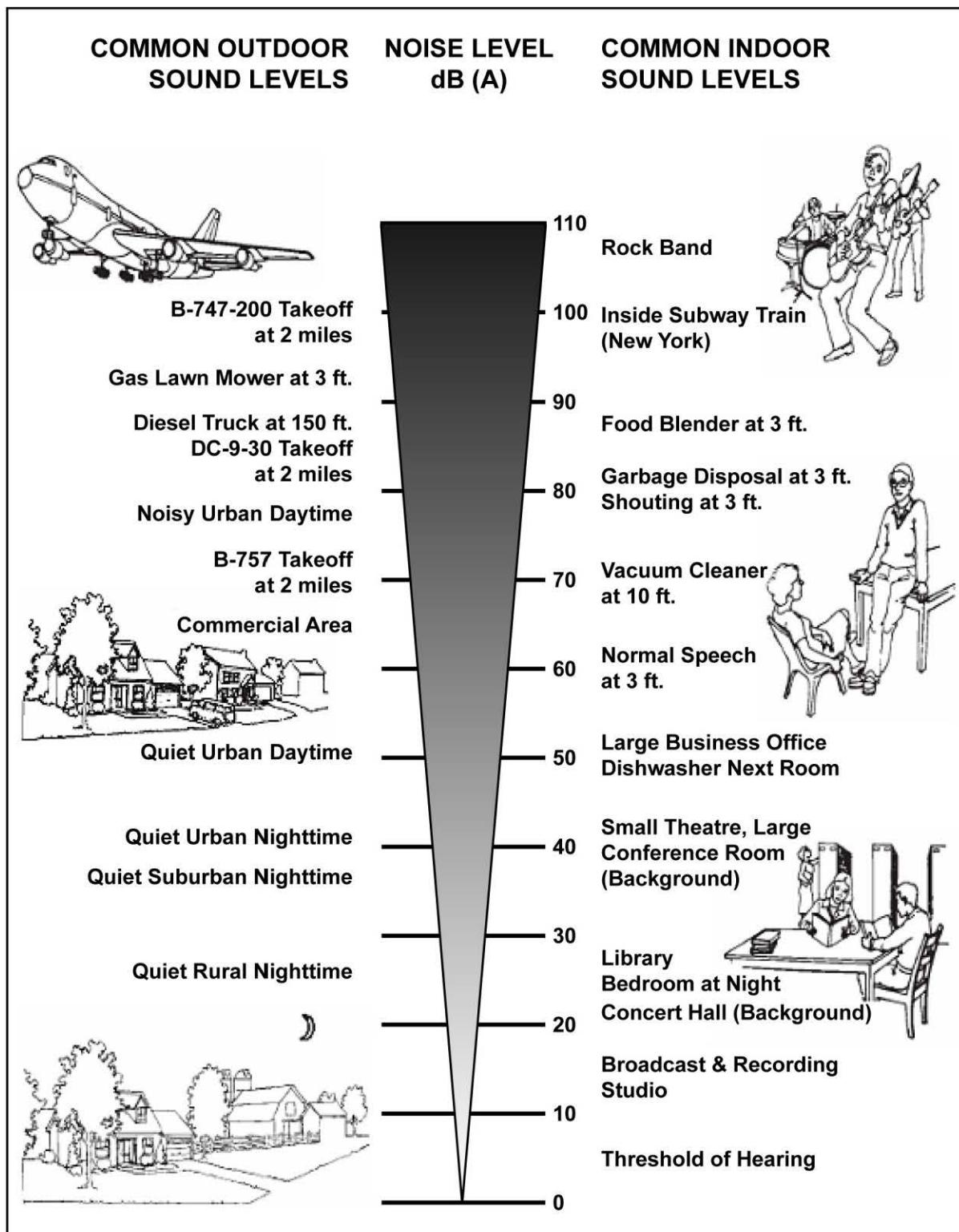
Noise and sound share the same physical aspects, but noise is considered a disturbance while sound is defined as an auditory effect. Noise is defined as any sound that is undesirable because it interferes with communication, is intense enough to damage hearing, or is otherwise annoying. Human response to increased noise levels varies according to the source type, characteristics of the noise source, distance between source and receptor, receptor sensitivity, and time of day. How an individual responds to the sound will determine if the sound is viewed as enjoyable or an annoying noise. Affected receptors are specific (e.g., schools, churches, or hospitals) or broad (e.g., nature preserves or designated districts) in which occasional or persistent sensitivity to noise above ambient levels exists.

**Ambient Sound Levels.** Most people are exposed to sound levels of 50 to 55 dBA or higher on a daily basis. Noise levels in residential areas vary depending on the housing density and location. As shown in **Figure 3-1**, a normal suburban residential area is about 55 dBA, which increases to 60 dBA for an urban residential area, and 80 dBA in the downtown section of a city.

**Construction Sound Levels.** Building construction, modification, and demolition work can cause an increase in sound that is well above the ambient level. A variety of sounds come from graders, pavers, trucks, welders, and other work processes. **Table 3-1** lists noise levels associated with common types of construction equipment that are likely to be used under the Proposed Action. Construction equipment usually exceeds the ambient sound levels by 20 to 25 dBA in an urban environment and up to 30 to 35 dBA in a quiet suburban area.

##### 3.1.2 Existing Conditions

MacDill AFB is at the southern end of Interbay Peninsula, approximately eight miles south of downtown Tampa. Given the close proximity to downtown Tampa, and the installation’s location in Tampa Bay, there are numerous noise-generating activities, facilities, and resources in the area.



Source: Landrum & Brown 2002

**Figure 3-1. Common Noise Sources**

**Table 3-1. Predicted Noise Levels for Construction Equipment**

<b>Construction Category and Equipment</b>	<b>Predicted Noise Level at 50 feet (dBA)</b>
<b>Grading</b>	
Bulldozer	87
Grader	85
Water Truck	88
<b>Paving</b>	
Paver	89
Roller	74
<b>Demolition</b>	
Loader	85
Haul Truck	88
<b>Building Construction</b>	
Generator Saw	81
Industrial Saw	83
Welder	74
Truck	80
Forklift	67
Crane	83

Source: COL 2001

There are several airports within a 15-mile vicinity of MacDill AFB. Tampa International Airport is approximately ten miles north. The Peter Oknight Airport, which services mostly single-engine aircraft, is approximately six miles northeast of MacDill AFB across Hillsborough Bay. The St. Petersburg/Clearwater International Airport is about 15 miles northwest of MacDill AFB across Old Tampa Bay. The U.S. Coast Guard Air Station Clearwater is stationed at the St. Petersburg/Clearwater International Airport; therefore, commercial aircraft as well as U.S. Coast Guard helicopters and aircraft operate from this location. Aircraft traveling to Tampa International Airport and to MacDill AFB often fly directly over or near Interbay Peninsula. Consequently, residences northeast of MacDill AFB are in an area considered to be significant for noise impacts from aircraft arriving and departing from the installation.

Major transportation routes around MacDill AFB include Interstate (I)-75, I-275, and I-4; U.S Route 92 and 41; and State Route (SR) 45. I-75 runs north-south along the eastern side of Hillsborough Bay. I-275 lies to the northwest of MacDill AFB and traverses mostly north-south. I-4 splits from I-275 just north of Tampa and heads east. U.S. Route 92 lies northwest of the installation and crosses Old Tampa Bay. U.S. Route 41 runs parallel to I-75 along the coast of Hillsborough Bay. SR 45 lies north of MacDill AFB, and traverses through Tampa on an east-west course. Direct access to the installation is handled by South Dale Mabry Highway and North Boundary Drive. All of these transportation routes serve nearby residential and commercial areas. Traffic along these roads adds noticeably to the ambient noise environment around MacDill AFB. However, because of the distances of the roads from the

Proposed Action, vehicle traffic does not currently cause noticeable noise impacts for residents in MFH parcels.

Noise from bay activity also adds to the ambient noise environment around MacDill AFB. Shipping and commercial ventures occur in and around Hillsborough Bay, as well as motor boating and other recreational water uses. Significant noise impacts from these activities would be limited to areas along the bays.

## 3.2 Land Use

### 3.2.1 Definition of the Resource

The term “land use” refers to real property classifications that indicate either natural conditions or the types of human activity occurring on a parcel. In many cases, land use descriptions are codified in local zoning laws. There is, however, no nationally recognized convention or uniform terminology for describing land use categories. As a result, the meanings of various land use descriptions, “labels,” and definitions vary among jurisdictions.

Natural conditions of property can be described or categorized as unimproved, undeveloped, conservation or preservation area, and natural or scenic area. There is a wide variety of land use categories resulting from human activity. Descriptive terms often used include residential, commercial, industrial, agricultural, institutional, and recreational.

Two main objectives of land use planning are to ensure orderly growth and compatible uses among adjacent property parcels or areas. Compatibility among land uses fosters the societal interest of obtaining the highest and best uses of real property. Tools supporting land use planning include written master plans/management plans and zoning regulations. In appropriate cases, the locations and extent of proposed actions need to be evaluated for their potential effects on project site and adjacent land uses. The foremost factor affecting a proposed action in terms of land use is its compliance with any applicable land use or zoning regulations. Other relevant factors include matters such as existing land use at the project site, the types of land uses on adjacent properties and their proximity to a proposed action, the duration of a proposed activity, and its “permanence.”

The Coastal Zone Management Act (CZMA) of 1972 (16 U.S.C. 1451 et seq.) declares a national policy to preserve, protect, develop, and, where possible, restore or enhance the resources of the nation’s coastal zone. The Florida Coastal Management Program (FCMP) is a federally approved program that ensures the wise and compatible use of Florida’s coastal resources. Federal proposals are reviewed by Florida for consistency with the FCMP under the CZMA.

### 3.2.2 Existing Conditions

MacDill AFB encompasses approximately 5,638 acres of U.S. government land and easements. Water surrounds the installation on three sides: Hillsborough Bay on the east, Old Tampa Bay to the west, and Tampa Bay to the south. In accordance with the CZMA, MacDill AFB maintains consistency with the FCMP. The City of Tampa has planning and zoning jurisdiction over land directly adjacent to MacDill AFB’s northern boundary. Land use in this area is mixed, although a large portion is residential. The area immediately north of the installation is primarily composed of residential, vacant, and other uses. Sections of vacant land or land categorized as “other” separates the installation from the residential area. However, residences still exist in areas which are subject to increased noise levels from MacDill AFB aircraft operations. Recent zoning has been aimed toward industrial use in this area in an attempt to prohibit noise-sensitive uses, such as residential, within the airfield flight path (MAFB 2005a).

Facilities and operations at MacDill AFB are grouped by functional areas and land use categories. Land use at MacDill AFB includes airfield, aircraft operations and maintenance, industrial, administrative, community commercial, community service, medical, accompanied housing, unaccompanied housing, open space, and outdoor recreation (including marinas, beaches, and water). Compatible land uses have been built in close proximity to achieve functional areas. Aircraft facilities are adjacent to the airfield. Most of the MFH and administrative buildings, commercial buildings, and community services are on the northeastern side of the installation and a large recreational area is present on the southern tip of the peninsula. More than 65 percent of the property at MacDill AFB consists of land categorized as airfield and vacant use.

### 3.3 Air Quality

#### 3.3.1 Definition of the Resource

In accordance with Federal Clean Air Act (CAA) requirements, the air quality in a given region or area is measured by the concentration of various pollutants in the atmosphere. The measurements of these “criteria pollutants” in ambient air are expressed in units of parts per million (ppm), milligrams per cubic meter ( $\text{mg}/\text{m}^3$ ), or micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ). The air quality in a region is a result not only of the types and quantities of atmospheric pollutants and pollutant sources in an area, but also surface topography, the size of the topological “air basin,” and the prevailing meteorological conditions.

The CAA directed USEPA to develop, implement, and enforce strong environmental regulations that would ensure clean and healthy ambient air quality. To protect public health and welfare, USEPA developed numerical concentration-based standards, or National Ambient Air Quality Standards (NAAQS), for pollutants that have been determined to impact human health and the environment. USEPA established both primary and secondary NAAQS under the provisions of the CAA. NAAQS are currently established for six criteria air pollutants: ozone ( $\text{O}_3$ ), carbon monoxide (CO), nitrogen dioxide ( $\text{NO}_2$ ), sulfur dioxide ( $\text{SO}_2$ ), respirable particulate matter (including particulate matter equal to or less than 10 microns in diameter [ $\text{PM}_{10}$ ] and particulate matter equal to or less than 2.5 microns in diameter [ $\text{PM}_{2.5}$ ]), and lead (Pb). The primary NAAQS represent maximum levels of background air pollution that are considered safe, with an adequate margin of safety to protect public health. Secondary NAAQS represent the maximum pollutant concentration necessary to protect vegetation, crops, and other public resources along with maintaining visibility standards. **Table 3-2** presents the primary and secondary USEPA NAAQS (USEPA 2006a).

Although  $\text{O}_3$  is considered a criteria air pollutant and is measurable in the atmosphere, it is not often considered a regulated air pollutant when calculating emissions because  $\text{O}_3$  is typically not emitted directly from most emissions sources. Ozone is formed in the atmosphere by photochemical reactions involving sunlight and previously emitted pollutants or “ $\text{O}_3$  precursors.” These  $\text{O}_3$  precursors consist primarily of nitrogen oxides ( $\text{NO}_x$ ) and volatile organic compounds (VOCs) that are directly emitted from a wide range of emissions sources. For this reason, regulatory agencies attempt to limit atmospheric  $\text{O}_3$  concentrations by controlling VOC pollutants and  $\text{NO}_2$ .

The CAA and USEPA delegated responsibility for ensuring compliance with NAAQS to the states and local agencies. As such, each state must develop air pollutant control programs and promulgate regulations and rules that focus on meeting NAAQS and maintaining healthy ambient air quality levels. These programs are detailed in State Implementation Plans (SIPs) that must be developed by each state or local regulatory agency and approved by USEPA. A SIP is a compilation of regulations, strategies, schedules, and enforcement actions designed to move the state into compliance with all NAAQS. Any

**Table 3-2. National Ambient Air Quality Standards**

<b>Pollutant</b>	<b>Standard Value</b>		<b>Standard Type</b>
<b>CO</b>			
8-hour Average <sup>a</sup>	9 ppm	(10 mg/m <sup>3</sup> )	Primary and Secondary
1-hour Average <sup>a</sup>	35 ppm	(40 mg/m <sup>3</sup> )	Primary
<b>NO<sub>2</sub></b>			
Annual Arithmetic Mean	0.053 ppm	(100 µg/m <sup>3</sup> )	Primary and Secondary
<b>O<sub>3</sub></b>			
8-hour Average <sup>b</sup>	0.08 ppm	(157 µg/m <sup>3</sup> )	Primary and Secondary
1-hour Average <sup>c</sup>	0.12 ppm	(240 µg/m <sup>3</sup> )	Primary and Secondary
<b>Pb</b>			
Quarterly Average	--	1.5 µg/m <sup>3</sup>	Primary and Secondary
<b>PM<sub>10</sub></b>			
Annual Arithmetic Mean <sup>d</sup>	--	50 µg/m <sup>3</sup>	Primary and Secondary
24-hour Average <sup>a</sup>	--	150 µg/m <sup>3</sup>	Primary and Secondary
<b>PM<sub>2.5</sub></b>			
Annual Arithmetic Mean <sup>e</sup>	--	15 µg/m <sup>3</sup>	Primary and Secondary
24-hour Average <sup>f</sup>	--	65 µg/m <sup>3</sup>	Primary and Secondary
<b>SO<sub>2</sub></b>			
Annual Arithmetic Mean	0.03 ppm	(80 µg/m <sup>3</sup> )	Primary
24-hour Average <sup>a</sup>	0.14 ppm	(365 µg/m <sup>3</sup> )	Primary
3-hour Average <sup>a</sup>	0.5 ppm	(1,300 µg/m <sup>3</sup> )	Secondary

Source: USEPA 2006a

Notes: Parenthetical values are approximate equivalent concentrations.

<sup>a</sup> Not to be exceeded more than once per year.

<sup>b</sup> To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.08 ppm.

<sup>c</sup> (a) The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is ≤ 1. (b) As of June 15, 2005, USEPA revoked the 1-hour ozone standard in all areas except the 14 8-hour ozone nonattainment Early Action Compact Areas.

<sup>d</sup> To attain this standard, the expected annual arithmetic mean PM<sub>10</sub> concentration at each monitor within an area must not exceed 50 µg/m<sup>3</sup>.

<sup>e</sup> To attain this standard, the 3-year average of the annual arithmetic mean PM<sub>2.5</sub> concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m<sup>3</sup>.

<sup>f</sup> To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 65 µg/m<sup>3</sup>.

changes to the compliance schedule or plan (e.g., new regulations, emissions budgets, controls) must be incorporated into the SIP and approved by USEPA. Florida delegated the authority for ensuring compliance with the NAAQS to individual counties. The Proposed Action is within Hillsborough County and is subject to rules and regulations developed by the Environmental Protection Commission (EPC) of Hillsborough County.

USEPA classifies the air quality in an air quality control region (AQCR) or in sub areas of an AQCR according to whether the concentration of criteria pollutants in ambient air exceeds the primary or secondary NAAQS. All areas within each AQCR are therefore designated as attainment, nonattainment, maintenance, or unclassified for each of the six criteria pollutants. Attainment indicates that the air

quality within an AQCR is better than the NAAQS, nonattainment indicates that criteria pollutant levels exceed NAAQS, maintenance indicates that an area was previously designated nonattainment but is now attainment, and unclassifiable indicates that there is not enough information to appropriately classify an AQCR so the area is considered attainment.

The General Conformity Rule requires that any Federal action meet the requirements of a SIP or Federal Implementation Plan. More specifically, CAA conformity is ensured when a Federal action does not cause a new violation of the NAAQS, contribute to an increase in the frequency or severity of violations of NAAQS, or delay the timely attainment of any NAAQS, interim progress milestones, or other milestones toward achieving compliance with the NAAQS. The General Conformity Rule applies only to actions in nonattainment or maintenance areas.

Federal Prevention of Significant Deterioration (PSD) regulations define air pollutant emissions from proposed major stationary sources or modifications to be “significant” if (1) a proposed project is within ten kilometers of any Class I area, and (2) regulated pollutant emissions would cause an increase in the 24-hour average concentration of any regulated pollutant in the Class I area of one  $\mu\text{g}/\text{m}^3$  or more [40 CFR 52.21(b)(23)(iii)]. PSD regulations also define ambient air increments, limiting the allowable increases to any area’s baseline air contaminant concentrations, based on the area’s designation as Class I, II, or III [40 CFR 52.21(c)].

Title V of the CAA Amendments of 1990 requires states and local agencies to permit major stationary sources. A major stationary source is a facility (i.e., plant, base, or activity) that can emit more than 100 tons per year (tpy) of any one criteria air pollutant, ten tpy of a hazardous air pollutant, or 25 tpy of any combination of hazardous air pollutants. However, lower pollutant-specific “major source” permitting thresholds apply in nonattainment areas. For example, the Title V permitting threshold for an “extreme” O<sub>3</sub> nonattainment area is ten tpy of potential VOC or NO<sub>x</sub> emissions. The purpose of the permitting rule is to establish regulatory control over large, industrial-type activities and monitor their impact on air quality.

### 3.3.2 Existing Conditions

MacDill AFB is in the West Central Florida Intrastate (WCFI) AQCR, which includes Citrus, Hardee, Hernando, Hillsborough, Levy, Manatee, Pasco, Pinellas, Polk, and Sumter counties in western Florida (40 CFR 81.96). The WCFIAQCR is in attainment for all criteria pollutants; therefore, the General Conformity Rule does not apply to MacDill AFB (USEPA 2006b). The Chassahowitzka Wilderness Area, the closest Class I area (40 CFR 81.407), is approximately 50 miles (81 kilometers) from MacDill AFB; therefore, PSD regulations do not apply.

NO<sub>x</sub> and CO are the primary pollutants that are emitted at MacDill AFB, and the majority of these emissions are from boilers that primarily burn natural gas and generators that burn diesel fuel. Lesser amounts of VOCs and hazardous air pollutants are emitted from fuel oil storage tanks and paint booths, and lesser amounts of particulate matter are emitted from the woodworking operations. MacDill AFB is currently considered a Major Source for NO<sub>x</sub>. In October 1999, the EPC of Hillsborough County issued a Title V permit to MacDill AFB that established specific conditions for the operation of boilers, fuel transfer and storage, and paint booths (AMC 2005).

The MacDill AFB annual emissions for calendar year 2003 from stationary and area sources are shown in **Table 3-3**. Emissions from mobile sources are not tracked on MacDill AFB.

**Table 3-3. Annual Stationary and Area Source Emissions for MacDill AFB**

Year	NO <sub>x</sub>	VOC	SO <sub>x</sub>	CO	PM
2003	9.79	57.25	0.22	3.91	2.70

Source: MAFB 2004

## 3.4 Safety

### 3.4.1 Definition of the Resource

A safe environment is one in which there is no, or an optimally reduced, potential for death, serious bodily injury or illness, or property damage. Human health and safety addresses (1) workers' health and safety during demolition activities and facilities construction, and (2) public safety during demolition and construction activities and during subsequent operations of those facilities.

Construction site safety is largely a matter of adherence to regulatory requirements imposed for the benefit of employees and implementation of operational practices that reduce risks of illness, injury, death, and property damage. The health and safety of onsite military and civilian workers are safeguarded by numerous DOD and USAF regulations designed to comply with standards issued by the Occupational Safety and Health Administration (OSHA) and USEPA. These standards specify the amount and type of training required for industrial workers, the use of protective equipment and clothing, engineering controls, and maximum exposure limits for workplace stressors. Compliance with OSHA and other applicable laws and regulations for the protection of employees is exclusively the obligation of the commercial contractor. Government employees at MacDill AFB must comply with AFI 91-301, *Air Force Occupational and Environmental Safety, Fire Protection, and Health Program*.

Safety and accident hazards can often be identified and reduced or eliminated. Necessary elements for an accident-prone situation or environment include the presence of the hazard itself together with the exposed (and possibly susceptible) population. The degree of exposure depends primarily on the proximity of the hazard to the population. Activities that can be hazardous include transportation, maintenance and repair activities, and the creation of highly noisy environments. The proper operation, maintenance, and repair of vehicles and equipment carry important safety implications. Any facility or human-use area with potential explosive or other rapid oxidation process creates unsafe environments for nearby populations. Extremely noisy environments can also mask verbal or mechanical warning signals such as sirens, bells, or horns.

### 3.4.2 Existing Conditions

All contractors performing construction activities are responsible for following OSHA regulations and are required to conduct construction activities in a manner that does not pose any risk to workers or personnel. Industrial hygiene programs address exposure to hazardous materials, use of personal protective equipment, and use and availability of Material Safety Data Sheets. Industrial hygiene is the responsibility of contractors, as applicable. Contractor responsibilities are to review potentially hazardous workplaces; to monitor exposure to workplace chemical (e.g., asbestos, lead, hazardous material), physical (e.g., noise propagation), and biological (e.g., infectious waste) agents; to recommend and evaluate controls (e.g., ventilation, respirators) to ensure personnel are properly protected or unexposed; and to ensure a medical surveillance program is in place to perform occupational health physicals for those workers subject to any accidental chemical exposures or engaged in hazardous waste work.

There are emergency services (i.e., police, fire, and ambulance services) on MacDill AFB. Therefore, emergency situations in MFH can be responded to within a quick timeframe. No aircraft safety zones (i.e., clear zones and accident potential zones) or quantity-distance arcs are within or adjacent to the MFH area.

## 3.5 Geological Resources

### 3.5.1 Definition of the Resource

Geological resources consist of the earth's surface and subsurface materials. Within a given physiographic province, these resources typically are described in terms of topography, geology, soils, and where applicable, geologic hazards, and paleontology.

Geology is the study of the earth's composition and provides information on the structure and configuration of surface and subsurface features. Such information derives from field analysis based on observations of the surface and borings to identify subsurface composition. Hydrogeology extends the study of the subsurface to water-bearing structures. Hydrogeological information helps in the assessment of groundwater quality and quantity and its movement.

Topography pertains to the general shape and arrangement of a land surface, including its height and the position of its natural and human-made features.

Soils are the unconsolidated materials overlying bedrock or other parent material. Soils typically are described in terms of their complex type, slope, and physical characteristics. Differences among soil types in terms of their structure, elasticity, strength, shrink-swell potential, and erosion potential affect their abilities to support certain applications or uses. In appropriate cases, soil properties must be examined for their compatibility with particular construction activities or types of land use.

Section 404 of the CWA addresses storm water runoff from construction sites and requires Phase II National Pollutant Discharge Elimination System (NPDES) permits for disturbances between one and five acres, and Phase I permits for disturbances of more than five acres. **Section 3.6** provides a more detailed discussion of Section 404 requirements.

### 3.5.2 Existing Conditions

**Topography.** MacDill AFB is on the Pamlico Terrace which rises gently from the coast to about 25 feet above mean sea level (amsl). Elevations on the installation range from sea level at the southern edge to about 15 feet amsl in the northern sections. Much of the installation is less than five feet amsl. The topography of the area of Proposed Action is relatively flat with elevations ranging naturally from five to ten feet amsl (MAFB 2005a). Some MFH units in Parcels A and D were constructed on clean fill material to raise the elevation to 11 feet amsl.

**Geology.** MacDill AFB is situated in the Gulf Coastal Lowlands physiographic region. There are three principal lithologic sequences in the area. The top unit is unconsolidated sand, clay, and marl. This unit might include remnants of the Hawthorn Formation, which is composed of sand, clay, and thin lenses of limestone. Sands in this unit range from five to 20 feet in thickness with clay layers up to 40 feet in thickness. This surficial layer is very thin and is absent in places on the eastern side of the installation. The underlying limestone formations outcrop at some locations where the surficial layer is absent. The Hawthorn Formation is underlain by the Tampa and Suwannee limestones, which range from 250 to 500 feet in thickness. Below this formation are the Ocala Group; Avon Park, Lake City, and Oldsmar limestones; and Cedar Keys Limestone, which are approximately 2,300 feet in thickness (MAFB 2005a).

**Soils.** There are eight soil mapping units covering the installation, including the Myakka, Urban Land, St. Augustine, Wabasso, Malabar, Arents, Pomello, and Tavares series. Four soil mapping units are found in the MFH parcels, including the Myakka fine sand; the Pomello fine sand, zero to five percent slopes; St. Augustine-Urban Land complex; and Urban Land. Urban Land is defined as area that has been altered or obscured by urban works and structures to the point that identification of the original soils is impossible (USDA 1978). The Pomello fine sand, zero to five percent slopes, formed in marine sediments and consists of very deep, moderately well to somewhat poorly drained, sandy soils that extend to depths of greater than 80 inches. The Myakka fine sand is a deep to very deep, poorly to very poorly drained soil that formed in sandy marine deposits. The St. Augustine-Urban Land complex is a mixture of Urban Land, defined above, and St. Augustine soils, which consist of very deep, somewhat poorly drained, moderately rapid to very slowly permeable soils that formed from fill material. The fill material came from dredging and filling operations along the Florida Peninsula (MAFB 2005a).

The Myakka fine sand and the St. Augustine-Urban Land complex, the dominant soils occurring in the MFH area, contain inclusions of Basinger and Kesson soils which are designated as hydric (NRCS 2006a). These soil inclusions comprise approximately five percent Myakka and St. Augustine-Urban Land complex mapping units. Hydric soils are soils that are saturated, flooded, or ponded for long enough during the growing season to develop anaerobic (oxygen-deficient) conditions in their upper part. Anaerobic soil conditions are conducive to the establishment of vegetation that is adapted for growth under oxygen-deficient conditions and is typically found in wetlands (i.e., hydrophytic vegetation). Locations where these soils occur are also potential locations of wetlands. **Section 3.7** provides additional discussion and shows the locations of wetland habitats occurring in the vicinity of the MFH area.

There are no prime or unique farmland soils on MacDill AFB.

**Geologic Hazards.** Sinkholes are common in the Hillsborough County area. Sinkholes form from dissolution of limestone associated with the percolation of groundwater, followed by subsidence of overlying materials. Hazards associated with sinkholes can occur when they develop under existing structures resulting in a reduction in structural stability and, in some cases, the collapse of the structure into the sinkhole. Potential hazards to groundwater quality can occur as a result of the conveyance of pollutants into groundwater through sinkholes or other solution-weathering features (MAFB 2005a). The portion of Hillsborough County that includes MacDill AFB has few occurrences of sinkholes; the sinkholes that do occur are usually broad and shallow depressions formed from the dissolution of limestone close to the surface (Albury 2004).

Two of the soil mapping units occurring in the vicinity of the MFH parcels are designated as hydric soils. Hydric soils typically occur in association with wetlands. Hazards to development associated with wetlands include high ground water tables; occasional, frequent, seasonal, or permanent flooding; and potential poor ground stability. Activities conducted in a wetland require permitting from the U.S. Army Corps of Engineers (USACE) and the Florida Department of Environmental Protection (FDEP) through a joint-application process, as well as permitting through the EPC of Hillsborough County.

## 3.6 Water Resources

### 3.6.1 Definition of the Resource

Water resources include groundwater, surface water, and floodplains. Evaluation of water resources examines the quantity and quality of the resource and its demand for various purposes.

**Groundwater.** Groundwater consists of subsurface hydrologic resources. It is an essential resource often used for potable water consumption, agricultural irrigation, and industrial applications. Groundwater typically can be described in terms of its depth from the surface, aquifer or well capacity, water quality, surrounding geologic composition, and recharge rate.

**Surface Water.** Surface water resources consist of lakes, rivers, and streams. Surface water is important for its contributions to the economic, ecological, recreational, and human health of a community or locale. Storm water is an important component of surface water systems because of its potential to introduce sediments and other contaminants that could degrade lakes, rivers, and streams. Proper management of storm water flows, which could be exacerbated by high proportions of impervious surfaces associated with buildings, roads, and parking lots, is important to the management of surface water quality. Storm water systems convey precipitation away from developed sites to appropriate receiving surface waters. Various systems and devices can be designed to control increased storm water volume and velocity and reduce potential adverse effects associated with increased impervious surfaces. Properly designed storm water systems can also provide the benefit of reducing sediments and other contaminants that would otherwise flow directly into surface waters. Failure to size storm water systems appropriately to hold or delay conveyance of the largest predicted precipitation event often leads to downstream flooding and the environmental and economic damages associated with flooding. Higher densities of development, such as those found in urban areas, require greater degrees of storm water management because of the higher proportions of impervious surfaces that occur in urban areas.

The CWA (33 U.S.C. 1251 et seq., as amended) establishes Federal limits through the NPDES on the amounts of specific pollutants that are discharged to surface waters in order to restore and maintain the chemical, physical, and biological integrity of the water. A Phase II NPDES permit would be required for any change in the quality or quantity of wastewater discharge or storm water runoff from construction sites where one to five acres would be disturbed, and a Phase I permit would be required for disturbances of more than five acres. Section 404 of the CWA regulates the discharge of fill material into waters of the United States, including wetlands.

**Floodplains.** Floodplains are areas of low-level ground present along rivers, stream channels, or coastal waters. Such lands might be subject to periodic or infrequent inundation due to rain events. Risk of flooding typically hinges on local topography, the frequency of precipitation events, and the size of the watershed above the floodplain. Flood potential is evaluated by the Federal Emergency Management Agency (FEMA), which defines the 100-year floodplain. The 100-year floodplain is the area that has a one percent chance of inundation by a flood event in a given year. Certain facilities inherently pose too great a risk to be located in either the 100- or 500-year floodplain, such as hospitals, schools, or storage buildings for irreplaceable records. Federal, state, and local regulations often limit floodplain development to passive uses, such as recreational and preservation activities, to reduce the risks to human health and safety.

EO 11988, *Floodplain Management*, requires Federal agencies to determine whether a proposed action would occur within a floodplain. This determination typically involves consultation of appropriate FEMA Flood Insurance Rate Maps, which contain enough general information to determine the relationship of the project area to nearby floodplains. EO 11988 directs Federal agencies to avoid floodplains unless the agency determines that there is no practicable alternative. Where the only practicable alternative is to site in a floodplain, a specific step-by-step process must be followed to comply with EO 11988. The process is outlined in the FEMA document *Further Advice on EO 11988 Floodplain Management*. As a planning tool, the NEPA process incorporates floodplain management through analysis and public coordination of the EA.

### 3.6.2 Existing Conditions

**Groundwater.** MacDill AFB has two aquifer systems: a shallow, surficial aquifer, and the underlying regional Floridan aquifer. The surficial aquifer system (sand, clayey sand, and shell) is about 20 feet thick and is used to supply small irrigation systems beyond installation boundaries. It is not used at MacDill AFB. Recharge of this aquifer is primarily through precipitation. The surficial aquifer ranges from the surface to about five feet beneath the surface at inland locations. The surficial aquifer is highly susceptible to groundwater contamination, primarily due to a shallow water table depth and permeable sediments. MacDill AFB operations have affected this surficial aquifer. USTs, landfills, and the golf courses are the primary sources of known contamination (MAFB 2005a).

The surficial aquifer is separated from the regional Floridan aquifer by heterogeneous calcareous clays and limestone with varying permeability. The Floridan aquifer is composed of the Tampa and Suwannee limestones, the Ocala Group, and the Avon Park Limestone, all of which are highly permeable. The clay and limestone barrier between the surficial and the Floridan aquifers is nonexistent in some areas in the northeastern section of MacDill AFB, and increases to more than 40 feet in the southern section of the installation. The Floridan aquifer is not significantly recharged from the surface at MacDill AFB. The installation is primarily a discharge zone for this aquifer, and the flow of water is upward (MAFB 2005a).

The Floridan aquifer is rated as moderately susceptible to contamination. There is slight contamination of this aquifer, apparently from installation operations, but not enough to meet clean-up criteria. This aquifer is not used for drinking water at MacDill AFB, but it is used for potable water in the Tampa area and in west-central Florida (MAFB 2005a).

**Surface Water.** MacDill AFB is an independent drainage area with no surface waters entering or leaving the installation other than discharge to Tampa and Hillsborough bays. The northern boundary road around the installation is the water divide between MacDill AFB and the civilian community; the remainder of the installation is surrounded by Hillsborough Bay (to the east) and Tampa Bay (to the southwest). Hillsborough Bay borders the MFH area on the east.

Excessive nutrients (23 percent) are found in Hillsborough Bay (USEPA 2005). Excessive nutrients result from high levels of nitrogen and phosphorus that stimulate algae growth, which blocks sunlight from reaching submerged aquatic vegetation (an important aquatic habitat) and depletes dissolved oxygen when the algae die and decompose. Excess nutrients enter water bodies most often from storm water carrying nutrient-rich chemicals, like lawn fertilizers or detergents.

The two largest impoundments on MacDill AFB are Lake McClelland and Lewis Lake, which total approximately 20 acres. These lakes are on the eastern side of the installation, just southwest of the MFH area. The coastal plain is crisscrossed with drainage canals, which are primarily mangrove swamps. Most of these canals are interconnected and tidally influenced (MAFB 2001a, 2005a). Water resources on MacDill AFB are shown in **Figure 3-2**.

Because of the predominantly flat terrain and sandy soil of the Florida coast, storm water at MacDill AFB either infiltrates rapidly into the soil (and surficial aquifer); or flows over land into receiving waters, which include Lake McClelland, Lewis Lake, and the canals draining to Hillsborough Bay. Locations on the installation with large areas of impervious surfaces experience sheet flows of storm water during large rain events (MAFB 2001a).

MacDill AFB has two NPDES Permits: a Multi-Sector Generic Permit (MSGP) for storm water discharge associated with industrial activity (Permit No. FLR05E128), and a Phase II Municipal Separate Storm



Figure 3-2. Water Resources in the Vicinity of MFH Parcels

Sewer System (MS4) generic storm water permit (Permit No. FLR04E059). The MSGP primarily covers the flightline areas at MacDill AFB (not near the MFH area), and includes activities such as aircraft refueling, vehicle maintenance, and materials handling. The MS4 permit requires the development of a storm water management program with detailed best management practices (BMPs) that implement, among other things, construction site runoff and control and pollution prevention measures. MacDill AFB also maintains a Hazardous Materials Management Plan and a Spill Prevention Control and Countermeasures Plan (SPCC) that provide guidance for handling materials appropriately and detailed procedures to follow in the event of a spill.

**Floodplains.** Approximately 80 percent of the land mass at MacDill AFB is within the 100-year floodplain, including the MFH area. **Figure 3-2** shows the 100-year floodplain in the MFH area. The installation is in Tampa's Coastal High Hazard Area, which is an area threatened by tropical storms and hurricanes. Any hurricane, particularly those in higher intensity categories, could cause major damage to MFH units and other installation facilities. MacDill AFB has prepared a Floodplain Management Plan (FPMP) to guide future development in the floodplain (AMC 2006b).

## 3.7 Biological Resources

### 3.7.1 Definition of the Resource

Biological resources include native or naturalized plants and animals, and the habitats, such as wetlands, forests, grasslands, and estuaries, in which they exist. Sensitive and protected biological resources include plant and animal species listed as threatened or endangered by the U.S. Fish and Wildlife Service (USFWS) or the State of Florida. Determining which species occur in an area affected by a proposed action can be accomplished through literature reviews and coordination with appropriate Federal and state regulatory agency representatives, resource managers, and other knowledgeable experts.

**Protected Species.** Under the ESA (16 U.S.C. 1536), an “endangered species” is defined as any species in danger of extinction throughout all or a significant portion of its range. A “threatened species” is defined as any species likely to become an endangered species in the foreseeable future. The USFWS also maintains a list of species considered to be candidates for possible listing under the ESA. Although candidate species receive no statutory protection under the ESA, the USFWS has attempted to advise government agencies, industry, and the public that these species are at risk and could warrant protection under the ESA.

The Florida Fish and Wildlife Conservation Commission (FWC) oversees the protection and management of state-protected fauna under the Florida Endangered and Threatened Species Act (Florida Statute 372.072). Within the Florida Administrative Code (FAC), protection is provided to endangered species (68A-27.003 FAC), threatened species (68A-27.004 FAC), and species of special concern (68A-27.005 FAC). The Florida Department of Agriculture and Consumer Services maintains the state list of plants designated as endangered, threatened, and commercially exploited (5B-40 FAC) as defined under Florida Statute 581.185(2).

**Essential Fish Habitat.** Pursuant to Section 303(a)(7) of the Magnuson-Stevens Fisheries Conservation and Management Act (16 U.S.C. 1801 et seq.), regional fishery management councils must identify essential fish habitat (EFH) used by all life history stages of each managed species in fishery management plans. EFH is defined as habitats that are necessary to the species for spawning, breeding, feeding, or growth to maturity. EFH that is particularly important to the long-term productivity of populations of one or more managed species, or is particularly vulnerable to degradation, is identified as habitat areas of particular concern (HAPC) to provide additional focus for conservation efforts. Pursuant to Section 305(b)(2) of the Magnuson-Stevens Fisheries Conservation and Management Act, Federal agencies shall

consult with the National Marine Fisheries Service (NMFS) regarding any action federally authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken, by such agency that might adversely affect EFH.

**Wetlands.** Wetlands are an important natural system and habitat because of the diverse biologic and hydrologic functions they perform. These functions include water quality improvement, groundwater recharge and discharge, pollution mitigation, nutrient cycling, unique plant and wildlife habitat provision, storm water attenuation and storage, sediment detention, and erosion protection. Wetlands are protected as a subset of the “waters of the United States” under Section 404 of the CWA. The term “waters of the United States” has a broad meaning under the CWA and incorporates deepwater aquatic habitats and special aquatic habitats (including wetlands). The USACE defines wetlands as “those areas that are inundated or saturated with ground or surface water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas” (33 CFR Part 328). EO 11990, *Protection of Wetlands*, directs Federal agencies to avoid impacts on wetlands, where practicable.

### 3.7.2 Existing Conditions

**Vegetation.** Approximately 80 to 85 percent of MacDill AFB has been altered from its historical vegetative cover. Most of MacDill AFB was originally wetlands, which have since been drained and filled to allow for development. Upland areas were pine flatwoods with pothole wetlands. Today, habitat types on the installation can be generalized into urban areas (improved, industrialized areas with mowed vegetation), forested areas (pine and hardwood), water (fresh and brackish), and mangrove and swamp areas (wetlands). In the mowed and improved portions of the installation, nonnative bahiagrass (*Paspalum notatum*) is the dominant vegetation. The following discusses the forested and wetland vegetation in more detail because those habitats are managed as natural areas.

In the early 1970s, 500 acres of pine (dominated by slash pine [*Pinus elliottii*]) were planted on MacDill AFB. The understory of this pine forest is thick. Remnant forest communities on the installation consist of longleaf pine (*Pinus palustris*) and mixed hardwood species, primarily oaks (*Quercus* spp.), maples (*Acer* spp.), cabbage palm (*Sabal palmetto*), and southern magnolia (*Magnolia grandiflora*). The forest understory is dominated by wax myrtle (*Myrica cerifera*), salt bush (*Baccharis halimifolia*), saw palmetto (*Serenoa repens*), and gallberry (*Ilex glabra*); however, the exotic invasive Brazilian pepper (*Schinus terebinthifolius*) has replaced significant portions of the natural understory (MAFB 2005a). Forested areas of MacDill AFB are managed primarily as wildlife habitat. The pine plantation was initially planted to absorb noise from aircraft and industry and to improve aesthetics. Timber harvesting has not been actively pursued because the market for small operations is limited. Prescribed burning can be used to reduce the potential for a dangerous wildfire and increase the quality of forest habitat. MacDill AFB has accomplished limited prescribed burning of selected forested areas during the last ten years.

MacDill AFB has approximately 1,200 acres of wetlands. Most of these wetlands (approximately 74 percent) are estuarine scrub-shrub, dominated by black mangrove (*Avicennia germinans*) and white mangrove (*Laguncularia racemosa*), though some red mangrove (*Rhizophora mangle*) is also present (MAFB 2005a). Coastal management is an important issue at MacDill AFB. The mangroves protect and stabilize the shoreline, which is particularly susceptible to erosion on the eastern bay, near the MFH area. A riprap revetment was recently constructed in this area to control erosion. Wetlands as a biological resource are discussed in *Wetlands* at the end of this section.

The most serious vegetative threat on MacDill AFB is the exotic invasive Brazilian pepper (*Schinus terebinthifolius*). In Florida, Brazilian pepper is an aggressive colonizer of disturbed environments, including pine flatlands, tropical hardwood hammocks, and mangrove forest (Ferriter 1997). At MacDill AFB, the Brazilian pepper is prevalent in the mangrove forest areas and in the pine understory. MacDill AFB has expended much effort removing Brazilian pepper and revegetating with native species. Another exotic invasive species on the installation is the melaleuca tree (*Melaleuca quinquenervia*), which grows in conditions ranging from aquatic to terrestrial. The Brazilian pepper and the melaleuca tree displace native vegetation and diminish wildlife habitat. Removal of these species, primarily Brazilian pepper, is a top concern for both forest and wetland management. Other invasive species on MacDill AFB include Australian pine (*Casuarina equisetifolia*), mimosa (*Albizia julibrissin*), cattails (*Typha* spp.), cogon grass (*Imperata cylindrica*), water hyacinth (*Eichhornia crassipes*), lantana (*Lantana camara*), and castor bean (*Ricinus communis*) (MAFB 2005a).

**Wildlife.** Faunal species are limited at MacDill AFB because of its location on an isolated peninsula. Habitat, as discussed in *Vegetation*, is fragmented as wildlife habitat at best. The thick understory of the forested areas reduces the potential habitat available for wildlife. Several wildlife surveys of MacDill AFB were completed in the early 1990s, all of which confirmed lower species diversity than previous literature reviews indicated. The major causes of low species diversity appear to be loss of fresh water, lack of fire, and the prevalence of Brazilian pepper. As the wetland and forested areas are restored on the southern portion of MacDill AFB, wildlife habitat has gradually improved (MAFB 2005a).

One faunal survey identified 109 species of birds on MacDill AFB. Songbirds and wading birds are fairly common, particularly in the mangrove forests and along shorelines. **Figure 3-3** shows the location of a particularly high density of shorebirds near the MFH parcels. Improving the quality of the installation's forests would also likely increase the number and diversity of birds, particularly songbirds. There are few colonies of breeding birds on the installation, largely because of raccoons (*Procyon lotor*) (MAFB 2005a).

Only small mammals are present on MacDill AFB, the most numerous of those being raccoons, marsh rabbits (*Sylvilagus palustris*), opossums (*Didelphis virginiana*), armadillos (*Dasyurus novemcinctus*), striped skunks (*Mephitis mephitis*), and gray squirrels (*Sciurus carolinensis*). Like songbirds, mammal habitat is limited by the dense forest understory. Raccoons are the most problematic animal pest on the installation (MAFB 2005a).

Smallmouth bass (*Micropterus dolomieu*) and largemouth bass (*M. salmoides*) are the primary freshwater species in MacDill AFB ponds. Lewis Lake, which tends to be brackish at least part of the year, also has blue tilapia (*Oreochromis aureus*), redfish/red drum (*Sciaenops ocellatus*), mullet (*Mugil cephalus*), and snook (*Centropomus undecimalis*). Blue tilapia is an exotic and invasive species. Generally, installation ponds are poor habitat for fish because the water is shallow and tends to have low dissolved oxygen (MAFB 2005a).

**Protected Species.** As discussed in *Vegetation* and in *Wildlife*, the dense understory of the forest and the prevalence of exotic invasive species are two of the most important factors affecting the habitat quality of MacDill AFB. Federal- and state-listed species have been identified on the installation, so threatened and endangered species management is an important issue. Particularly in the coastal and wetland areas, there is some valuable foraging habitat for many of the state species of special concern. The USFWS has not designated any portion of MacDill AFB as critical habitat for federally listed species. Furthermore, the installation is not considered to have critical habitat for any state species of concern (MAFB 2005a). **Table 3-4** presents a detailed list of those species protected under Federal and state law. Only 22 of the 37 potential species have been identified on MacDill AFB. In 2003–2004, MacDill AFB conducted a threatened and endangered species survey; only 13 of the 37 potential species were identified (MAFB 2005b).

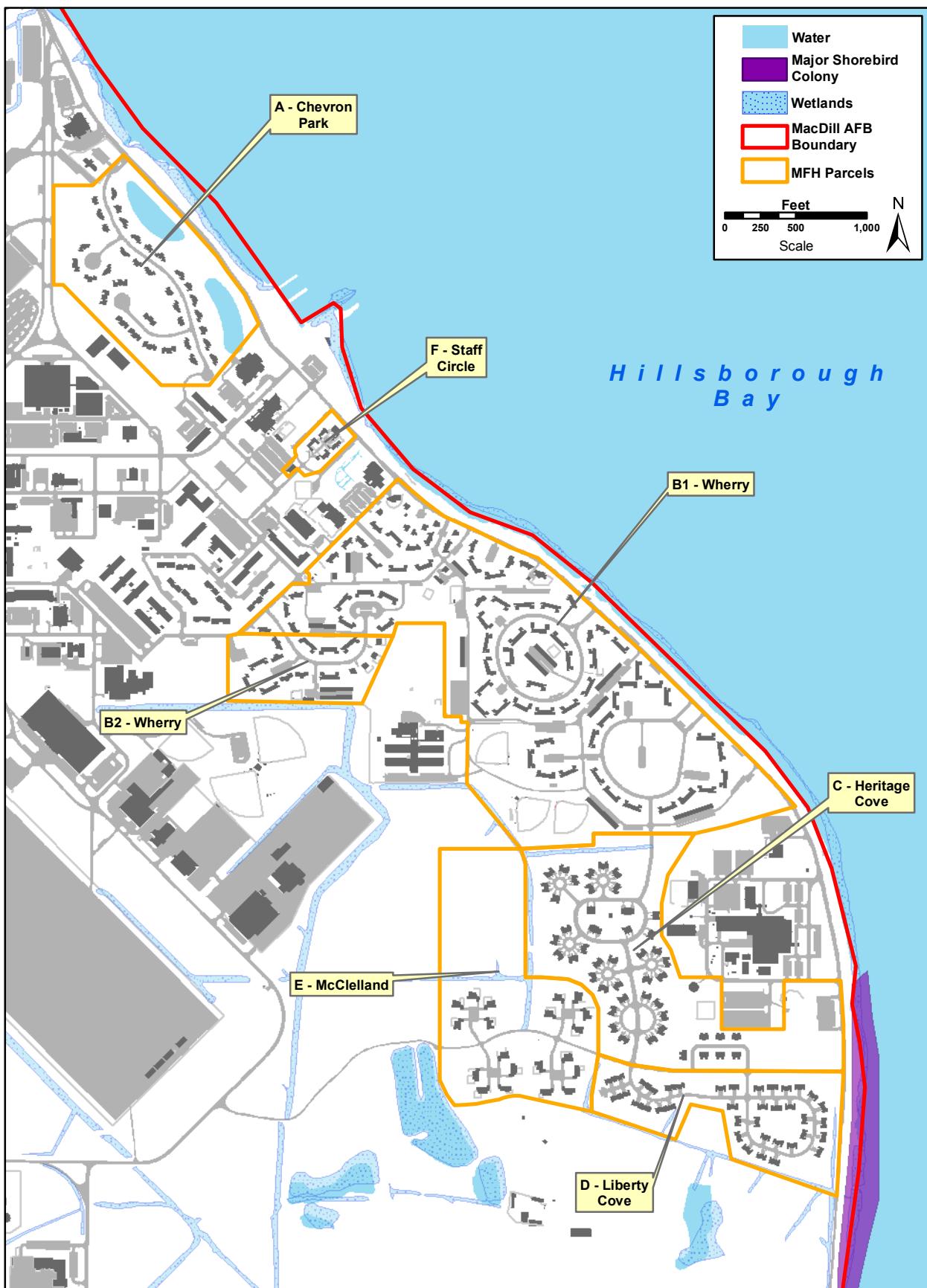


Figure 3-3. Biological Resources and Habitat in the Vicinity of MFH Parcels

**Table 3-4. Protected Species Potentially Occurring On or Near MacDill AFB**

<b>Common Name</b>	<b>Scientific Name</b>	<b>Federal Status</b>	<b>State Status</b>	<b>Comments/Habitat on MacDill AFB</b>
<b>Plants</b>				
Florida golden aster	<i>Chrysopsis floridana</i>	E	E	Grows in open sunny areas in sand-pine evergreen oak scrub.
<b>Amphibians</b>				
Gopher frog <sup>a</sup>	<i>Rana capito</i>	NL	SSC	Prefers xeric pine flatwoods.
<b>Reptiles</b>				
American alligator <sup>a</sup>	<i>Alligator mississippiensis</i>	T (S/A)	SSC	Found occasionally and relocated.
Atlantic loggerhead sea turtle <sup>a</sup>	<i>Caretta caretta</i>	T	T	Uses beach areas for nesting.
Atlantic green sea turtle	<i>Chelonia mydas mydas</i>	E	E/T <sup>c</sup>	Uses beach areas for nesting.
Eastern indigo snake	<i>Drymarchon corais couperi</i>	T	T	Potentially occurs in woody uplands bordering mangroves.
Gopher tortoise <sup>a, b</sup>	<i>Gopherus polyphemus</i>	NL	SSC	Occurs in recently burned pine flatwoods. Resident.
Florida pine snake	<i>Pituophis melanoleucus mugitus</i>	NL	SSC	Prefers xeric pine flatwoods.
Short-tailed snake	<i>Stilosoma extenuatum</i>	NL	T	Prefers xeric pine flatwoods.
<b>Birds</b>				
Roseate spoonbill <sup>a, b</sup>	<i>Platalea ajaja</i>	NL	SSC	Forages and roosts along shorelines and mangrove system. Resident.
Florida scrub jay	<i>Aphelocoma coerulescens</i>	T	T	No suitable habitat identified.
Limpkin	<i>Aramus guarauna</i>	NL	SSC	Potentially occurs along shores, ditches, and in mangroves.
Burrowing owl <sup>a, b</sup>	<i>Athene cunicularia</i>	NL	SSC	Nests in open mowed areas. Resident.
Southeastern snowy plover	<i>Charadrius alexandrinus tenuirostris</i>	NL	T	Possibly occurs along shorelines in winter.
Piping plover <sup>a</sup>	<i>Charadrius melanodus</i>	T	T	Possibly occurs along shorelines in winter.
Little blue heron <sup>a, b</sup>	<i>Egretta caerulea</i>	NL	SSC	Common along shorelines, ditches, and mangroves. Resident.

**Table 3-4. Protected Species Potentially Occurring On or Near MacDill AFB (continued)**

<b>Common Name</b>	<b>Scientific Name</b>	<b>Federal Status</b>	<b>State Status</b>	<b>Comments/Habitat</b>
Reddish egret <sup>a, b</sup>	<i>Egretta rufescens</i>	NL	SSC	Prefers shorelines, sandbars, and shallow salt ponds. Possible resident.
Snowy egret <sup>a, b</sup>	<i>Egretta thula</i>	NL	SSC	Common along shorelines, ditches, and mangroves. Resident.
Tricolored heron <sup>a, b</sup>	<i>Egretta tricolor</i>	NL	SSC	Common along shorelines, ditches, and mangroves. Resident.
White ibis <sup>a, b</sup>	<i>Eudocimus albus</i>	NL	SSC	Common along freshwater marshes or ponds, or along shorelines. Resident.
Arctic peregrine falcon	<i>Falco peregrinus tundrius</i>	NL	E	Probable occurrence along shorelines during winter migration.
Southeastern American kestrel <sup>a</sup>	<i>Falco sparverius paulus</i>	NL	T	Prefers open stands of mature pines.
Florida sandhill crane <sup>a</sup>	<i>Grus canadensis pratensis</i>	NL	T	Visitor to open areas.
American oystercatcher <sup>a, b</sup>	<i>Haematopus palliatus</i>	NL	SSC	Prefers coastal shorelines, sandbars, and tidal flats. Resident.
Bald eagle <sup>a, b</sup>	<i>Haliaeetus leucocephalus</i>	T <sup>d</sup>	T	Potential for foraging and nesting. Resident.
Wood stork <sup>a, b</sup>	<i>Mycteria americana</i>	E	E	Occurs regularly in coastal wetlands and open uplands. Resident.
Brown pelican <sup>a, b</sup>	<i>Pelecanus occidentalis</i>	NL	SSC	Common along waterfront and mangrove areas. Resident.
Red-cockaded woodpecker	<i>Picoides borealis</i>	E	SSC	Prefers longleaf pine stands, occasionally slash pines.
Audubon's crested caracara	<i>Polyborus plancus audubonii</i>	T	T	Prefers dry open prairies.
Black skimmer <sup>a, b</sup>	<i>Rynchops niger</i>	NL	SSC	Primarily occurs along shorelines but can also be found at inland lakes. Resident.
Least tern <sup>a</sup>	<i>Sterna antillarum</i>	NL	T	Probably forages in drainage ditches and ponds.
Roseate tern	<i>Sterna dougallii</i>	T	T	Probably forages in drainage ditches and ponds.
Bachman's warbler	<i>Vermivora bachmanii</i>	E	E	Potential for occurrence during migration. Generally believed to be extinct.
<b>Fish</b>				
Common snook <sup>a</sup>	<i>Centropomus undecimalis</i>	NL	SSC	Uses mangroves for spawning.

**Table 3-4. Protected Species Potentially Occurring On or Near MacDill AFB (continued)**

Common Name	Scientific Name	Federal Status	State Status	Comments/Habitat
<b>Mammals</b>				
Florida mouse	<i>Podomys floridanus</i>	NL	SSC	Prefers scrubby flatwood habitat.
Sherman's fox squirrel	<i>Sciurus niger shermani</i>	NL	SSC	Prefers pine flatwood habitat.
West Indian manatee <sup>a</sup>	<i>Trichechus manatus latirostris</i>	E	E	Summer range in Tampa Bay and tributaries.

Sources: MAFB 2005a, 2005b; FWC 2004; USFWS 1999; FAC Statutes 27.003, 27.004, 27.005, and 40.0055

Notes:

E = endangered

T = threatened

T (S/A) = threatened due to similarity of appearance

NL = not listed

SSC = species of special concern

<sup>a</sup> Species previously documented on MacDill AFB.

<sup>b</sup> Documented in most recent endangered species population survey (MAFB 2005b).

<sup>c</sup> Breeding populations of Atlantic green sea turtle in Florida are endangered; all other individuals are threatened.

<sup>d</sup> 50 CFR Part 17 provides for the Federal delisting of the bald eagle, effective August 8, 2007.

A survey for rare and protected plants was performed on the installation in 1993, but none were identified.

The following discussion focuses briefly on how habitat types and land uses determine which species could be found in a given area of MacDill AFB, specifically those species that are managed as residents of MacDill AFB (MAFB 1995, 2005a).

The most diverse assemblage of fauna occurs along the shorelines, primarily in the mangrove areas. Wading and shore birds use this area for foraging and perching. Wading bird species that have been documented include the roseate spoonbill, little blue heron, reddish egret, snowy egret, tricolored egret, wood stork, and white ibis; shore bird species include the American oystercatcher, brown pelican, least tern, and black skimmer. With the exception of the least tern, which is a summer resident, these wading and shore birds have been described as permanent residents (MAFB 1995). No nest sites have been recorded on MacDill AFB, though better control of the predatory raccoon population and habitat improvements (i.e., continued creation of new wetlands and restoration of existing wetlands) could result in future nesting. MacDill AFB does not use the wetland and shoreline areas for military missions. Shore birds might be found anywhere along the shoreline east of the MFH parcels. The shoreline east of Parcels C and D has a particularly high density of shore birds (**Figure 3-3**).

Several protected raptor species have also been documented on the installation. One bald eagle and a bald eagle chick were observed in the 2003–2004 survey (MAFB 2005b). A breeding pair has resided of MacDill AFB since approximately 1995, though the original nest (near Parcel E) was destroyed in 2001 by Tropical Storm Gabrielle. The eagles now nest in a tree within the Munitions Storage Area, which is approximately one mile west and southwest of the MFH parcels. According to the 2003–2004 survey, the burrowing owl population is estimated to consist of 14 adults, though there might be as many as 30

individuals during the peak of the birth season. Active (22) and inactive (8) owl burrows occur primarily in open grassy areas at the north end of the runway and between the taxiways (MAFB 2005b); burrowing owls are not known to inhabit the MFH parcels.

The gopher tortoise is also a resident of MacDill AFB. This species prefers dry upland habitats including sandhills and pine flatwoods but is also found in human-altered environments like mowed fields. Gopher tortoise burrows are numerous (187 active and 77 inactive) in the unimproved, grassy areas between the flightline runways, though they also occur in smaller numbers in other locations on the installation (MAFB 2005b). Based on the number of burrows found in the 2003–2004 survey, there might be as many as 162 gopher tortoises on MacDill AFB (MAFB 2005b). There are several gopher tortoise colonies approximately 1.5 miles west and southwest of the MFH parcels. Gopher tortoises are not known to inhabit the MFH parcels.

**Essential Fish Habitat.** Commercial and recreational fisheries resources in the Gulf of Mexico are managed by the states within the Gulf of Mexico States Marine Fisheries Commission and federally by the Gulf of Mexico Fishery Management Council and NMFS' Office of Highly Migratory Species. Commercial fishery landings on the west coast of Florida totaled 84 million pounds and were valued at \$148 million in 2004 (NMFS 2006). Estuarine areas of the Gulf of Mexico are essential breeding, nursery, and feeding areas for many commercial and recreational marine fish and shellfish.

EFH has been designated for 25 species within Tampa and Hillsborough bays, which are adjacent to MacDill AFB. There are no HAPC designated in the waters adjacent to MacDill AFB. **Table 3-5** lists the species and their life stage(s) that are protected as part of the EFH within Tampa and Hillsborough bays. Pursuant to the Magnuson-Stevens Fisheries Conservation and Management Act, Federal agencies must consult with fishery managers concerning actions (including the issuance of permits for private activities) that might adversely impact EFH.

**Wetlands.** Much of the MacDill AFB's shoreline area is wetland. **Figure 3-3** indicates the wetland areas in the MFH parcels. Wetlands are valuable for biological habitat, hydrologic cycling, and aesthetics. According to a 1998 wetland delineation, MacDill AFB has 1,195 acres of wetlands (approximately 21 percent of the installation): 880 acres are estuarine scrub-shrub emergent (i.e., mangrove swamps), 220 acres are palustrine, and 115 acres are needle-leaved forested (MAFB 2005a). Near the MFH parcels, wetlands occur along the shoreline and along drainage ditches in and around Parcels B1, B2, C, D, and E.

There are several wetland concerns at MacDill AFB. As discussed in *Vegetation*, the Brazilian pepper and melaleuca tree are serious threats to wetlands, along with other exotic invaders such as Australian pine, mimosa, and cogon grass. Another concern is mangrove tree invasion of drainage ditches. While mangrove trees are valued for their ecosystem function and habitat value, they are security risks (by blocking field of vision) and a detriment to proper drainage (by clogging canals). In accordance with state regulations, MacDill AFB is allowed to maintain the man-made drainage features (canals and ditches) throughout the installation, which includes the removal of mangroves and other shrubby vegetation from the ditch banks. MacDill AFB is permitted and has removed mangroves along the eastern shoreline of the installation to allow a clear line of sight for improved force protection. As mitigation for removing mangroves from the shoreline, MacDill AFB has restored degraded mangrove wetlands on other areas of the base through removal of Brazilian pepper and planting of mangroves. Wetlands management is a top priority of MacDill AFB.

**Table 3-5. Fish and Invertebrate Species with EFH in Tampa and Hillsborough Bays**

Common Name	Species	Protected Life Stage			
		Eggs	Larvae	Juveniles	Adults
Great hammerhead shark	<i>Sphyrna mokarran</i>	NA	NA	X	X
Scalloped hammerhead shark	<i>Sphyrna lewini</i>	NA	NA	X	--
Nurse shark	<i>Ginglymostoma cirratum</i>	NA	NA	X	X
Blacktip shark	<i>Carcharhinus limbatus</i>	NA	NA	X	X
Bull shark	<i>Carcharhinus leucas</i>	NA	NA	X	X
Dusky shark	<i>Carcharhinus obscurus</i>	NA	NA	X	
Lemon shark	<i>Negaprion brevirostris</i>	NA	NA	X	X
Sandbar shark	<i>Carcharhinus plumbeus</i>	NA	NA	X	X
Spinner shark	<i>Carcharhinus brevipinna</i>	NA	NA	X	--
Tiger shark	<i>Galeocerdo cuvieri</i>	NA	NA	X	X
Bonnethead shark	<i>Sphyrna tiburo</i>	NA	NA	X	X
Atlantic sharpnose shark	<i>Rhizoprionodon terraenovae</i>	NA	NA	X	X
Blacknose shark	<i>Carcharhinus acronotus</i>	NA	NA	X	X
Finetooth shark	<i>Carcharhinus isodon</i>	NA	NA	X	--
Pink shrimp	<i>Penaeus duorarum</i>	--	X	X	--
Gag	<i>Mycteroperca microlepis</i>	--	--	X	X
Cobia	<i>Rachycentron canadum</i>	--	X	--	X
Bluefish	<i>Pomatomus saltatrix</i>	--	X	X	X
Gray snapper	<i>Lutjanus griseus</i>	--	X	X	X
Yellowtail snapper	<i>Ocyurus chrysurus</i>	--	--	X	--
Gulf stone crab	<i>Menippe adina</i>	--	--	X	X
Lane snapper	<i>Lutjanus synagris</i>	--	X	X	--
Red drum	<i>Sciaenops ocellatus</i>	--	X	X	X
Spanish mackerel	<i>Scomberomorus maculatus</i>	--	X	--	X
Spiny lobster	<i>Panulirus argus</i>	--	X	X	X

Source: GMFMC 1998; NMFS 1999

Notes:

NA = Not Applicable

-- = EFH has not been designated for that life stage of that species.

## 3.8 Cultural Resources

### 3.8.1 Definition of the Resource

“Cultural resources” is an umbrella term for many heritage-related resources. The NHPA of 1966, as amended, applies to “historic properties” defined as prehistoric and historic sites, structures, districts, objects, or any other physical evidence of human activity considered important to a culture, a subculture, or a community for scientific, traditional, religious, or any other reason. Depending on the condition and prehistoric or historic use, such resources might provide insight into lifestyles and living conditions in previous civilizations or might retain cultural and religious significance to modern groups.

Several Federal laws and regulations govern protection of cultural resources, including the NHPA, the Archaeological and Historic Preservation Act (1974), the American Indian Religious Freedom Act (1978), the Archaeological Resources Protection Act (ARPA) (1979), and the Native American Graves Protection and Repatriation Act (NAGPRA) (1990). NAGPRA requires consultation with interested Native American tribes for disposition of human remains and artifacts of cultural patrimony.

Typically, cultural resources are subdivided into archaeological resources (prehistoric or historic sites where human activity has left physical evidence of that activity but no structures remain standing); architectural resources (buildings, structures, groups of structures, or designed landscapes that are of historic or aesthetic significance); or properties of traditional, cultural, or religious significance to Native American tribes.

Archaeological resources comprise areas where human activity has measurably altered the earth or deposits of physical remains are found (e.g., projectile points and bottles).

Architectural resources include standing buildings, bridges, dams, and other structures of historic or aesthetic significance. Generally, architectural resources must be more than 50 years old to be considered eligible for the NRHP. More recent structures, such as Cold War-era resources, might be eligible for the NRHP if they are considered to be of exceptional importance and have the potential to gain significance in the future. Historic districts have a significant concentration, linkage, or continuity of historic sites, buildings, structures, or objects united historically or aesthetically.

Traditional cultural properties or sacred sites can include archaeological resources, structures, neighborhoods, prominent topographic features, habitats, plants, animals, and minerals that Native Americans or other groups consider essential for the preservation of traditional culture.

The EA process and the consultation process prescribed in Section 106 of the NHPA require an assessment of the potential impact of an undertaking on historic properties that are within the proposed project’s Area of Potential Effect (APE), which is defined as the geographic area(s) “within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist.” Under Section 110 of the NHPA, Federal agencies are required to locate and inventory all resources under their purview that are recommended as eligible for inclusion in the NRHP on owned, leased, or managed property.

### 3.8.2 Existing Conditions

**Archaeological Resources.** MacDill AFB was constructed by filling in the naturally swampy landscape to create hardened surfaces suitable for construction. It is estimated that 59 percent of the installation has been developed to its maximum (i.e., the industrial flightline area). Another 10 percent has been altered for recreational uses, and 16 percent is actively used and disturbed for firing ranges, tree plots, fill sites,

and explosives storage. While accidental discovery of archaeological resources could occur, only 15 percent of the installation, primarily mangrove wetlands along the shoreline, is considered to have a high probability for containing intact archaeological resources (MAFB 2006b).

Five archaeological sites have been recorded on MacDill AFB: the Sand Mound Site (Site 8HI49), Gadsden Point Site (Site 8HI50), Coon Hammock Site (Site 8HI3280), Runway Site (Site 8HI3382), and EOD Site (Site 8HI5656). **Table 3-6** summarizes these five archaeological sites. Of these, only Gadsden Point Site and Runway Site are eligible for inclusion on the NRHP. Neither site is within the APE for the Proposed Action.

**Table 3-6. Archaeological Sites on MacDill AFB**

Site	Name	NRHP Status	Regional Complex	Year(s) of Study (Level of Study) <sup>a</sup>
8Hi49	Sand Mound Site	Not Eligible (destroyed)	unknown	1952, 1983 (Phase I)
8Hi50	Gadsden Point Site	Eligible	Weeden Island (300–1300 A.D.)	1952, 1983, 1996 (Phase II)
8Hi3280	Coon Hammock Site	Not Eligible	Weeden Island (300–1300 A.D.)	1987 (Phase I)
8Hi3382	Runway Site	Eligible	Archaic (8000–1000 B.C.)	1988, 1991 (Phase II)
8Hi5656	EOD Site	Not Eligible	Late Archaic (3000–1000 B.C.)	1996 (Phase II)

Note: <sup>a</sup> Phase I investigations consist of surface reconnaissance and subsurface testing to locate archaeological sites. They are used to identify and inventory archaeological sites. Phase II investigations evaluate the integrity and context of archaeological sites.

**Architectural Resources.** MacDill AFB has two historic districts (the MacDill Field Historic District and the GOQ Historic District, or Staff Circle) and two Cold War-era buildings that are considered eligible for inclusion in the NRHP. **Figure 3-4** shows the locations of the two NRHP-eligible historic districts and the Cold War-era buildings (Buildings 501 and 540). Both historic districts display the Mediterranean Revival architecture style, which was popular in the Tampa Bay area in the 1930s and 1940s. Typical features of Mediterranean Revival construction are stucco exteriors, arched openings, low-pitched roofs with clay tile, and asymmetrical facades. Most contributing buildings within the districts display a practical adaptation of Mediterranean Revival in the “military vernacular” style, which used poured-in-place concrete or concrete masonry unit construction. The Mediterranean Revival style is a more ornamental adaptation of the earlier Mission style.

In addition to the historic districts and Cold War-era administration buildings, MacDill AFB also includes large numbers of Capehart-Wherry housing units constructed in the 1950s and 1960s. Although this type of housing unit has been determined NRHP-eligible at a number of DOD installations nationwide, evaluation of MacDill’s Capehart-Wherry housing units in 2003 (MAFB 2003a) resulted in a determination of noneligibility. The Florida SHPO has concurred with this determination.

Of the NRHP-eligible architectural resources at MacDill AFB, only the GOQ Historic District lies within the APE of the Proposed Action. The GOQ Historic District occurs entirely within Parcel F (see **Figure 3-4**) and includes six structures. The five houses and one garage were built in 1941. Originally,



Figure 3-4. Cultural Resources in the Vicinity of MFH Parcels

28 GOQs were planned, but only five were constructed. The GOQ Historic District is eligible for the NRHP based on two criteria: (1) its association with events that have made an important contribution to American history (Criterion A); and (2) embodiment of a distinctive type, period, or method of construction (Criterion C). The GOQ Historic District provided housing for the operations commanders at MacDill AFB during World War II. It displays a cohesiveness of design and continuity of workmanship and materials in a setting that retains architecture and landscape integrity. As identified in the installation's Integrated Cultural Resources Management Plan (ICRMP) (MAFB 2006b), Buildings 401 and 404 (which would be individually eligible for the NRHP) are considered the core buildings of this historic district. The remaining buildings are important components of the historic district and contribute to its cohesiveness, setting, integrity, and feeling. **Table 3-7** provides a list of the buildings that comprise the GOQ Historic District at MacDill AFB.

**Table 3-7. Buildings Comprising the GOQ Historic District at MacDill AFB**

Building No.	Building Name/Description	Year Constructed	District NRHP Status	Individual NRHP Status	Year of Study (Level of Study) <sup>a</sup>
398	Garage	1941	Eligible	Not Eligible	1994 (HABS III)
401	Housing (Loop)	1941	Eligible	Eligible	1994 (HABS I)
402	Housing (Loop)	1941	Eligible	Eligible	1994 (HABS I)
403	Housing (Loop)	1941	Eligible	Not Eligible	1994 (HABS I)
404	Housing (Loop)	1941	Eligible	Eligible	1994 (HABS I)
405	Housing (Loop)	1941	Eligible	Eligible	1994 (HABS I)

Notes:

HABS = Historic American Buildings Survey

<sup>a</sup> Level I HABS documentation is the most detailed, and Level IV is the least detailed. Level IV HABS is only a basic inventory.

**Traditional, Cultural, or Religious Significance to Native American Tribes.** In 1996, MacDill AFB initiated NAGPRA consultation with 11 tribal organizations regarding disposition of human remains and associated artifacts uncovered at the Gadsden Point Site (8HI50). Later in 1996, installation personnel and the Independent Traditional Seminole Nation of Florida reinterred all human remains and artifacts that were collected as a result of archaeological excavations at this site. The reinterment occurred within the western portion of the Gadsden Point Site, which is less susceptible to erosion. The western portion of the Gadsden Point Site is treated as eligible for inclusion in the NRHP and its condition regularly monitored.

As part of this NAGPRA consultation, MacDill AFB agreed not to allow further archaeological investigations or intrusions at the Gadsden Point Site and to adopt a policy specifying noncollection of artifacts in any future archaeological investigations within MacDill AFB. Finally, as part of that consultation effort, the participating tribes indicated that they were not aware of any other sacred sites or traditional cultural properties present within MacDill AFB.

Human remains and cultural artifacts were inadvertently discovered again in 2006 along MacDill AFB's eastern shoreline, likely exposed during extensive shoreline erosion during the preceding years. MacDill AFB initiated consultation with the two principle tribes that participated in the 1996 NAGPRA consultation process, the Seminole Tribe and the Miccosukee Tribe. The human remains and artifacts were reinterred on the western portion of the Gadsden Point site in accordance with the wishes of each tribe.

## 3.9 Socioeconomics

### 3.9.1 Definition of the Resource

**Social and Economic Conditions.** Socioeconomics is defined as the basic attributes and resources associated with the human environment, particularly characteristics of population and economic activity. Regional birth and death rates and immigration and emigration affect population levels. Economic activity typically encompasses employment, personal income, and industrial or commercial growth. Changes in these two fundamental socioeconomic indicators are typically accompanied by changes in other components, such as housing availability and the provision of public services. Socioeconomic data at county, state, and national levels permit characterization of baseline conditions in the context of regional, state, and national trends.

Data in three areas provide key insights into socioeconomic conditions that might be affected by a proposed action. Data on employment identify gross numbers of employees, employment by industry or trade, and unemployment trends. Data on personal income in a region can be used to compare the “before” and “after” effects of any jobs created or lost as a result of a proposed action. Data on industrial or commercial growth or growth in other sectors provide baseline and trend line information about the economic health of a region.

In appropriate cases, data on an installation’s expenditures in the regional economy help to identify the relative importance of an installation in terms of its purchasing power and jobs base.

Demographics identify the population levels and changes to population levels of a region. Demographics data might also be obtained to identify, as appropriate to evaluation of a proposed action, a region’s characteristics in terms of race, ethnicity, poverty status, educational attainment level, and other broad indicators.

Socioeconomic data shown in this chapter are presented at metropolitan, county, and state levels to characterize baseline socioeconomic conditions in the context of regional and state trends. Data have been collected from previously published documents issued by Federal, state, and local agencies; and from state and national databases (e.g., U.S. Bureau of Economic Analysis’ Regional Economic Information System).

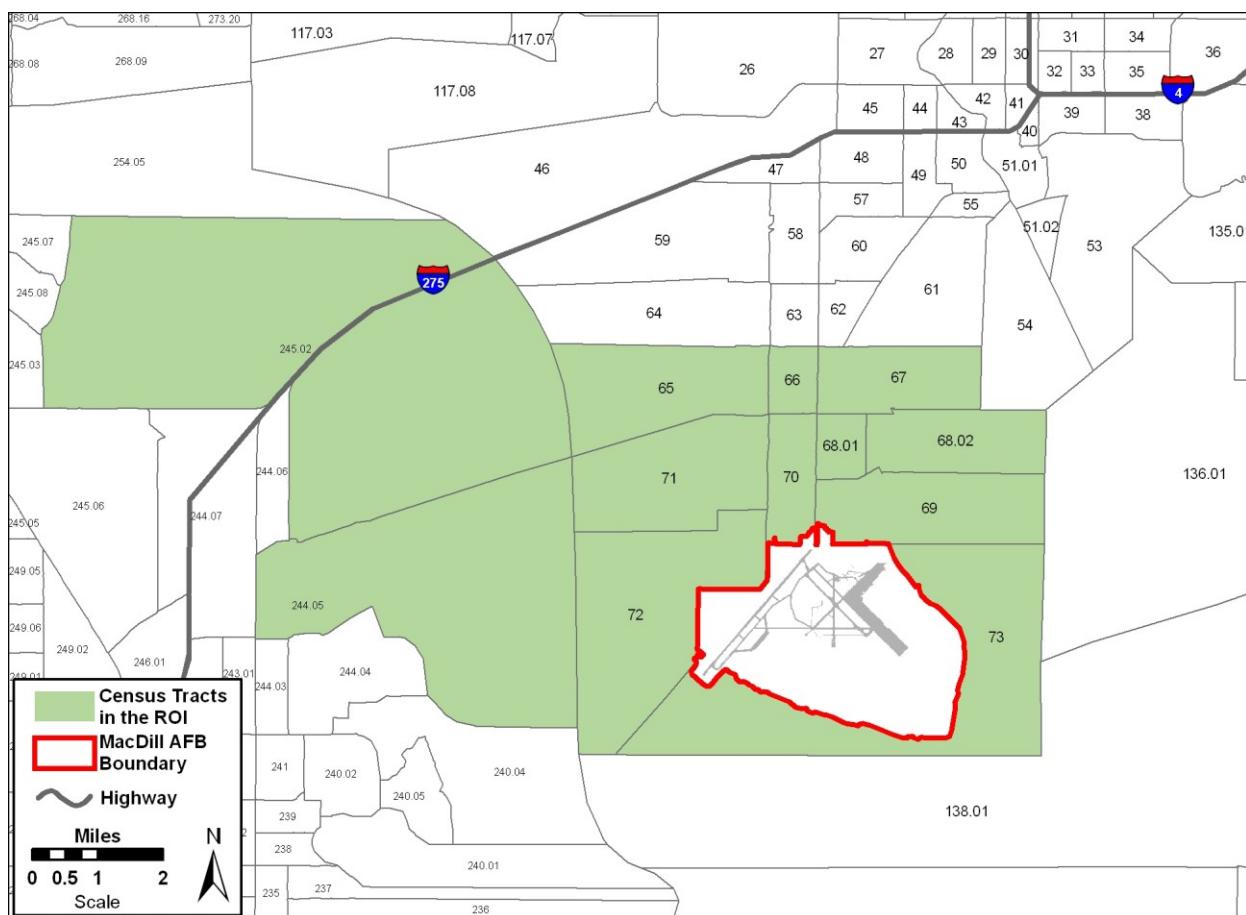
**Environmental Justice.** There are no Federal regulations on socioeconomics, but there is one EO that pertains to environmental justice issues. This EO is included in the environmental justice section because it relates to various socioeconomic groups and the health effects that could be imposed on them. On February 11, 1994, President Clinton issued EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*. This EO requires that Federal agencies’ actions substantially affecting human health or the environment do not exclude persons, deny persons benefits, or subject persons to discrimination because of their race, color, or national origin. The EO was created to ensure the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means that no groups of people, including racial, ethnic, or socioeconomic groups, should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of Federal, state, tribal, and local programs and policies. Consideration of environmental justice concerns includes race, ethnicity, and the poverty status of populations in the vicinity of a proposed action. Such information aids in evaluating whether a proposed action would render vulnerable any of the groups targeted for protection in the EO.

Socioeconomic data shown in this section are presented at the U.S. Bureau of Census Tract, Metropolitan Statistical Area (MSA), and state levels to characterize baseline socioeconomic conditions in the context of regional, state, and national trends. An MSA is a geographic entity defined for use by Federal statistical agencies based on the concept of a core urban area with a high degree of economic and social integration with surrounding communities. Data have been collected from previously published documents issued by Federal, state, and local agencies and from state and national databases.

### 3.9.2 Existing Conditions

MacDill AFB is approximately eight miles south of downtown Tampa, Florida, in Hillsborough County. There are approximately 12,000 active duty military personnel and 7,000 civilians assigned to MacDill AFB (MAFB 2002). There are an additional 64,000 military retirees living within a 50-mile radius (MAFB 2002). MacDill AFB has been a large part of the financial growth of the Tampa-St. Petersburg-Clearwater MSA since the installation's establishment in 1939.

For the purposes of this analysis, the socioeconomic baseline is presented using three levels of comparison: the Region of Influence (ROI); the Tampa-St. Petersburg-Clearwater, Florida MSA; and the State of Florida. The ROI was defined by identifying census tracts surrounding MacDill AFB. **Figure 3-5** shows the Tracts 65, 66, 67, 68.01, 68.02, 69, 70, 71, 72, 73, 244.05, and 245.02 that were defined as the ROI. The Tampa-St. Petersburg-Clearwater MSA includes the ROI and surrounding metropolitan area.



**Figure 3-5. Census Tracts in the Vicinity of MacDill AFB**

**Social and Economic Conditions.** Between 1990 and 2000, Florida's population increased by 24 percent. In the same period of time, the Tampa-St. Petersburg-Clearwater MSA and the ROI grew by 16 percent and 2 percent, respectively (U.S. Census Bureau 2000). The total economic impact from payroll, installation expenditures, and the dollar value of indirect jobs created for operations at MacDill AFB was estimated to be \$5.5 billion for FY 2002 (MAFB 2002).

**Table 3-8** lists the industries for residents in the ROI, MSA, and state. The top three areas of industry for residents are (1) professional, scientific, management, administrative and waste management services; (2) educational, health and social services; and (3) retail trade. As would be expected, there is a larger portion of the population in the ROI employed in the Armed Forces, compared with both the MSA and Florida.

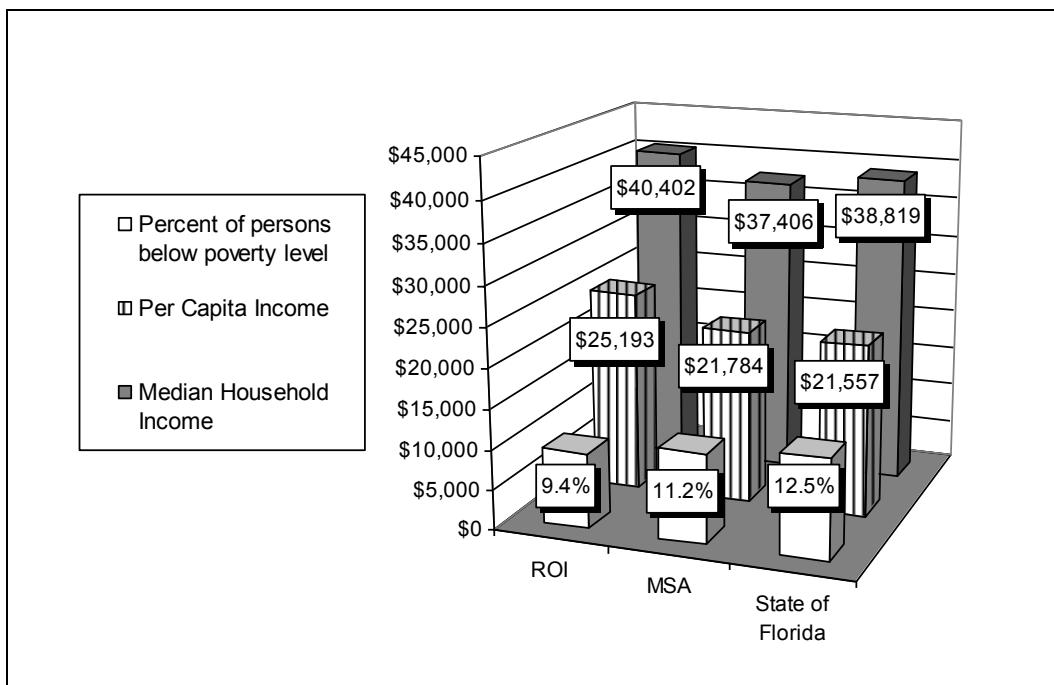
In May 2006, the unemployment rate of the MSA was 3.0 percent, which is comparable to Florida which had a 3.2 percent unemployment rate for the same time period (BLS 2006). As shown in **Figure 3-6**, the ROI has a higher median household income and per capita income and a lower percentage of individuals below the poverty threshold than both the MSA and Florida (U.S. Census Bureau 2000).

**Environmental Justice.** Race, ethnicity, and the poverty status of people within the ROI, MSA, and Florida were characterized to establish a baseline for environmental justice analysis. Income, poverty, and race were examined at the census tract level and compared to the state and MSA averages. Census tracts having disproportionately low-income or high-poverty levels or percentages of minorities are discussed in more detail to determine if environmental justice impacts could occur.

**Table 3-8. Employment of Residents in ROI, MSA, and the State of Florida**

Economic and Social Indicators	ROI	MSA	State of Florida
<b>Employed Persons in Armed Forces</b>	<b>6.0%</b>	<b>0.3%</b>	<b>0.5%</b>
<b>Employed Persons in Civilian Labor Force (by industry)</b>			
Agriculture, forestry, fishing and hunting, and mining	0.1%	0.8%	1.3%
Construction	4.9%	7.0%	8.0%
Manufacturing	6.9%	8.3%	7.3%
Wholesale trade	4.0%	4.4%	4.0%
Retail trade	13.6%	13.9%	13.5%
Transportation and warehousing, and utilities	5.0%	4.8%	5.3%
Information	4.4%	3.8%	3.1%
Finance, insurance, real estate, and rental and leasing	10.9%	9.2%	8.1%
Professional, scientific, management, administrative, and waste management services	14.0%	11.7%	10.6%
Educational, health, and social services	12.5%	15.7%	17.0%
Arts, entertainment, recreation, accommodation and food services	10.8%	8.8%	10.5%
Other services (except public administration)	4.8%	4.9%	5.1%
Public administration	6.1%	4.1%	5.2%

Source: U.S. Census Bureau 2000



Source: U.S. Census Bureau 2000

**Figure 3-6. Income and Poverty Level for Residents in ROI, MSA, and State of Florida**

Those 12 census tracts identified as the ROI (Tracts 65, 66, 67, 68.01, 68.02, 69, 70, 71, 72, 73, 244.05, and 245.02) were compared to the MSA and Florida. Tracts 70 and 72, which are adjacent to MacDill AFB on the northwestern boundary (as shown in **Figure 3-5**), are discussed in more detail because of their higher percentages of minority and low-income residents than the MSA and Florida. **Table 3-9** provides a comparison of Tracts 70 and 72 of the ROI against the MSA and Florida. The percentages of Asians, Pacific Islanders, and individuals below poverty level are higher in both Tracts 70 and 72 than in the MSA and Florida. In addition, the per capita income is lower in Tracts 70 and 72 than in the MSA and Florida. Percentages of Hispanics, African Americans, and Native Americans are also higher for one of the two tracts than either the MSA or Florida percentages.

**Table 3-9. Potential Environmental Justice Indicators of Tracts 70 and 72, MSA, and the State of Florida**

	ROI		MSA	State of Florida
	Tract 70	Tract 72		
Hispanic	15.2%	11.4%	10.4%	16.8%
Asian	9.2%	2.7%	1.9%	1.7%
African American	14.3%	27.6%	10.2%	14.6%
Native American	0.3%	0.6%	0.3%	0.3%
Pacific Islander	0.3%	0.4%	0.1%	0.1%
Below Poverty Level	17%	15.2%	11.2%	12.5%
Per Capita Income	\$16,099	\$18,740	\$21,784	\$21,557

Source: U.S. Census Bureau 2000

## 3.10 Infrastructure

### 3.10.1 Definition of the Resource

Infrastructure consists of the systems and physical structures that enable a population in a specified area to function. Infrastructure is wholly human-made, with a high correlation between the type and extent of infrastructure and the degree to which an area is characterized as “urban” or developed. The availability of infrastructure and its capacity to support growth are generally regarded as essential to economic growth of an area. The infrastructure components to be discussed in this section include the transportation network; electrical, communications, natural gas, water supply, sanitary sewer, and storm water systems; and solid waste.

The availability of landfills to support a population’s residential, commercial, and industrial needs is integral in evaluating municipal solid waste (MSW). Alternative means of waste disposal might involve waste-to-energy programs or incineration. In some localities, landfills are designed specifically for, and are limited to, disposal of construction and demolition (C&D) debris. Recycling programs for various waste categories (e.g., glass, metals, and papers) reduce reliance of landfills for disposal.

### 3.10.2 Existing Conditions

**Transportation Network.** Access to the northern portion of the installation is provided by four gates at Dale Mabry Highway, Bayshore Boulevard, MacDill Avenue, and Tanker Gate. Most people access the installation using the gate at Dale Mabry Highway. Primary roads on MacDill AFB include North Boundary Boulevard, Bayshore Boulevard, South Boundary Boulevard, Hanger Loop Drive, Hillsborough Loop Drive, Administration Avenue, Tampa Point Boulevard, Florida Keys Avenue, Marina Bay Drive, and Zemke Avenue (MAFB 2006a).

**Electrical System.** Tampa Electric Company provides MacDill AFB with electrical power. The majority of the electrical lines are aboveground with a few primary cables underground. The underground cable originates in the northeastern area of the installation, at the substation, and continues to the southern area to provide the core of the installation with overhead lines (MAFB 2006a).

Parcels A, C, D, and E have new electrical distribution systems (less than five years old) with underground lines. Parcels B1 and B2 have aboveground lines, and Parcel F has underground lines. Parcels B1, B2, and F have older electrical systems (25 to 30 years old) that are considered to be in poor condition (AMC and AFCEE 2006).

**Communications System.** The communications system consists of copper cable, fiber optic cable, and manhole/conduit systems that provide communications support for use on the installation. The copper system provides support for telephones, fire and crash systems, security alarm systems, radio systems, energy monitoring and control system, and low speed point-to-point data systems (MAFB 2006a). Bright House owns and maintains the computer network lines and cabling and provides the service under contract to the MFH parcels. Verizon owns and maintains the telephone system and provides service under contract to the MFH parcels, though the 6th Communications Squadron maintains some of the government telephone lines to Parcels E and F (AMC and AFCEE 2006).

**Natural Gas System.** People’s Gas Company of Tampa provides natural gas to MacDill AFB. The gas lines enter the installation in the northeastern area at the intersection of MacDill Avenue and North Boundary Boulevard. The lines then run along Tampa Point Boulevard where they are distributed throughout the installation to provide the necessary gas to various areas of the installation (MAFB 2006a). Parcels B1 and B2 are supplied natural gas via a 6-inch main and 2- to 4-inch distribution lines;

Parcel F is supplied via a 4-inch main and 2-inch distribution lines. There are no natural gas lines serving Parcels A, C, D, and E (AMC and AFCEE 2006).

**Water Supply System.** The City of Tampa provides water to MacDill AFB through three service connections. One is located just outside the Dale Mabry Gate, east of Dale Mabry Highway, one is located in the grassy area between North Boundary Road and Himes Avenue, and one is located inside the installation just east of the MacDill Avenue Gate. All three connections are equipped with a parallel set of reduced pressure backflow preventors. The Dale Mabry connection is a 20-inch diameter pipe reduced to 16-inch diameter pipe inside the base while both the Himes Avenue and MacDill Avenue connections are 12-inch diameter pipes. Each connection is equipped with a 6-inch water meter. Historically, there have been problems documented on the installation with the water supply system, such as insufficient water quality testing in the field, the presence of metals, cross-connection control problems, and inadequate backflow prevention program. MacDill AFB continually repairs and improves the water supply system to address problems (MAFB 2006a).

**Sanitary Sewer System.** MacDill AFB owns and operates its sanitary sewer system consisting of sewer lines, lift stations, and a wastewater treatment plant (WWTP). The WWTP is in the southeastern corner of the installation on Bayshore Boulevard. The WWTP is a tertiary treatment facility with two clarifiers. Current standards allow the WWTP to treat 1.2 million gallons per day. Recent repairs to the sanitary sewer lines have corrected some inflow and infiltration problems, so the WWTP currently treats approximately 450,000 gallons per day of domestic wastewater (Harrison 2006). The treatment process uses activated sludge, sand filtration, and disinfection before it is discharged into a holding pond adjacent to the WWTP.

Most of the WWTP discharge is used for irrigation of the two Bay Palms Golf Complexes on the installation. During dry periods there is not enough discharge to irrigate the courses and during wet times the extra water is sent to two irrigation fields near Golf Course Avenue and Marina Bay Drive. In addition, a 20-million-gallon percolation pond was constructed to temporarily retain excess wastewater in extremely wet periods. To detect any possible contamination, monitoring wells were installed 10 to 15 feet below ground throughout the golf course complex (MAFB 2006a).

The MFH parcels are connected to the WWTP through a system of force mains and gravity collection systems and lift stations that pump into the 16-inch force main on Bayshore Boulevard (AMC and AFCEE 2006).

**Storm Water Systems.** The MacDill AFB storm water drainage system consists of drainage ditches, culverts, storage ponds, and other infrastructure feeding directly into tidal creeks and canals, or directly into Tampa Bay or Hillsborough Bay. Areas of the installation that are not served by storm water infrastructure either drain over land into ponds, or storm water rapidly infiltrates the soil. Storm water flows can be problematic at MacDill AFB during periods of excessive rainfall because of the large areas of impervious surfaces that drain to undersized inlets (MAFB 2006a).

The MFH parcels drain towards Hillsborough Bay; MacDill AFB has a NPDES permit for storm water discharge into Hillsborough Bay. Parcel A has two wet storm water treatment/attenuation ponds. Parcels B1 and B2 drain to inlet structures that feed either directly into Hillsborough Bay or the main north-south drainage canal. Parcel C drains mainly into a dry storm water treatment/attenuation pond, then overflows into a drainage ditch and into the main north-south drainage canal. Parcel D has a newly constructed internal dry storm water treatment/attenuation pond system, which discharges into ditches that flow into Hillsborough Bay. Parcel E drains to ditches that flow into the main north-south drainage canal. Parcel F has inlet structures that flow into Hillsborough Bay (AMC and AFCEE 2006).

**Solid Waste.** MSW at MacDill AFB is managed in accordance with the guidelines specified in AFI 32-7042, *Solid and Hazardous Waste Compliance*. This AFI incorporates by reference the requirements of Subtitle D, 40 CFR Parts 240 through 244, 257, and 258; and other applicable Federal regulations, AFIs, and DOD Directives. In general, AFI 32-7042 establishes the requirement for installations to have a solid waste management program that incorporates the following: a solid waste management plan; procedures for handling, storage, collection, and disposal of solid waste; record-keeping and reporting; and pollution prevention. MacDill AFB maintains a Solid Waste Management Plan that specifies the integration of solid waste reduction, recycling, and disposal into the overall management of the installation (MAFB 2000a).

MacDill AFB has a Qualified Recycling Program that is responsible for the collection, recycling, disposal, tracking, and reporting of solid waste. The installation has contracted with Waste Management and the Defense Reutilization and Marketing Office (DRMO) to handle the collection, recycling, and disposal of the solid waste. Waste Management of Tampa, under contract, is responsible for the refuse and recycling collection services that are provided to MFH, administrative offices, and industrial operations. The common areas of the administrative offices have recycling bins for mixed paper and aluminum cans. DRMO is responsible for the recycling of government-procured items such as car batteries, furniture, appliances, computers, paints, lubricants, and antifreeze. Cardboard is recycled by the Army and Air Force Exchange Service and the Defense Commissary Agency (MAFB 2000a).

C&D waste generated from specific construction, renovation, and maintenance projects on MacDill AFB, most of which are performed by off-installation contractors, is the responsibility of the contractor. Contractors are required to comply with Federal, state, local, and USAF regulations for the collection and disposal of MSW from the installation. Much of this material can be recycled or reused, or otherwise diverted from landfills. All nonrecyclable C&D waste is collected in a dumpster until removal. C&D waste contaminated with hazardous waste, ACM, LBP, or other undesirable components is managed in accordance with AFI 32-7042.

## 3.11 Hazardous Materials and Waste

### 3.11.1 Definition of the Resource

A hazardous material is any item or agent (biological, chemical, physical) which has the potential to cause harm to humans, animals, or the environment, either by itself or through interaction with other factors. Hazardous materials are defined and regulated in the United States primarily by laws and regulations administered by OSHA, USEPA, and the U.S. Department of Transportation (DOT). Each has its own definition of a “hazardous material.”

OSHA defines any substance or chemical which is a “health hazard” or “physical hazard,” including the following: chemicals which are carcinogens, toxic agents, irritants, corrosives, or sensitizers; agents which act on the hematopoietic system; agents which damage the lungs, skin, eyes, or mucous membranes; chemicals which are combustible, explosive, flammable, oxidizers, pyrophorics, unstable-reactive or water-reactive; and chemicals which in the course of normal handling, use, or storage could produce or release dusts, gases, fumes, vapors, mists, or smoke which might have any of the previously mentioned characteristics. Full definitions are at 29 CFR 1910.1200.

USEPA incorporates the OSHA definition, and adds any item or chemical which can cause harm to people, plants, or animals when released by spilling, leaking, pumping, pouring, emitting, emptying, discharging, injecting, escaping, leaching, dumping, or disposing into the environment. More than 350 hazardous and extremely hazardous substances are identified in 40 CFR Part 355.

The DOT defines a hazardous material as any item or chemical which, when being transported or moved, is a risk to public safety or the environment, and is regulated as such under the Hazardous Materials Regulations (49 CFR Parts 100–180); International Maritime Dangerous Goods Code; Dangerous Goods Regulations of the International Air Transport Association; Technical Instructions of the International Civil Aviation Organization; and U.S. Air Force Joint Manual, *Preparing Hazardous Materials for Military Air Shipments*.

A solid waste is a hazardous waste if it meets the following criteria and it is not specifically excluded from regulation as a hazardous waste:

- Any waste or combination of wastes of a solid, liquid, contained gaseous, or semisolid form which, because of its quantity, concentration, or physical or chemical characteristics, could cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness; or pose a substantial present or potential hazard to human health or the environment.
- Such wastes include, but are not limited to, those which are toxic, corrosive, flammable, or reactive measured by standard test methods or as can be reasonably determined by generators thorough knowledge of the waste generating process and which are listed as waste in 40 CFR Part 261 Subpart D or similar state specific regulations.

Evaluation of hazardous materials and wastes focuses on USTs and aboveground storage tanks (ASTs) and the storage, transport, and use of pesticides and herbicides; fuels; and petroleum, oil, and lubricants (POL). Evaluation might also extend to generation, storage, transportation, and disposal of hazardous wastes when such activity occurs at or near the project site of a proposed action. In addition to being a threat to humans, the improper release of hazardous materials and wastes can threaten the health and well being of wildlife species, botanical habitats, soil systems, and water resources. In the event of release of hazardous materials or wastes, the extent of contamination varies based on the type of soil, topography, and water resources.

Special hazards are those substances that might pose a risk to human health but are not regulated as contaminants under the hazardous wastes statutes. Hazards include ACM and LBP. The presence of special hazards or controls over them might affect, or be affected by, a proposed action. Information on special hazards describing their locations, quantities, and condition assists in determining the significance of a proposed action.

AFI 32-1052, *Facilities Asbestos Management*, which implements AFPD 32-10, *Installations and Facilities*, ensures compliance with 40 CFR Part 61 Subpart M, *National Emissions Standard for Asbestos*, and 29 CFR 1926.1101, *Toxic and Hazardous Substances: Asbestos*. AFI 32-1052 requires installations to develop an asbestos management plan for the purpose of maintaining a permanent record of the status and condition of ACM in installation facilities, as well as documenting asbestos management efforts. In addition, the instruction requires installations to develop an asbestos operating plan detailing how the installation accomplishes asbestos-related projects. Asbestos is regulated by USEPA with the authority promulgated under the Occupational Safety and Health Act, 29 U.S.C. § 669, et seq. Section 112 of the CAA regulates emissions of asbestos fibers to ambient air. USEPA policy is to leave asbestos in place if disturbance or removal could pose a health threat.

The Residential Lead-Based Paint Hazard Reduction Act of 1992, Subtitle B, Section 408 (commonly called Title X), passed by Congress on October 28, 1992, regulates the use and disposal of LBP in Federal facilities. Federal agencies are required to comply with applicable Federal, state, and local laws relating to LBP activities and hazards. USAF policy and guidance establishes LBP management at USAF

facilities. The policy incorporates by reference the requirements of 29 CFR 1910.120, 29 CFR Part 1926, 40 CFR 50.12, 40 CFR Parts 240 through 280, the CAA, and other applicable Federal regulations. In addition, the policy requires each installation to develop and implement a facility management plan for identifying, evaluating, managing, and abating LBP hazards.

To protect habitats and people from inadvertent and potentially harmful releases of hazardous substances, the DOD has dictated that all facilities develop and implement Hazardous Material Emergency Planning and Response Plans or Spill Prevention, Control, and Countermeasure Plans. Also, DOD has developed the Environmental Restoration Program (ERP), intended to facilitate thorough investigation and cleanup of contaminated sites on military installations. Through the ERP, DOD evaluates and cleans up sites where hazardous wastes have been spilled or released to the environment. The ERP provides a uniform, thorough methodology to evaluate past disposal sites, control the migration of contaminants, minimize potential hazards to human health and the environment, and clean up contamination. Description of ERP activities provides a useful gauge of the condition of soils, water resources, and other resources that might be affected by contaminants. It also aids in identification of properties and their usefulness for given purposes (e.g., activities dependent on groundwater usage might be restricted until remediation of a groundwater contaminant plume has been completed).

AFPD 32-70, *Environmental Quality*, and the AFI 32-7000 series incorporate the requirements of all Federal regulations, and other AFIs and DOD Directives for the management of hazardous materials, hazardous wastes, and special hazards.

### 3.11.2 Existing Conditions

In conformance with the policies established by AFPD 32-70, MacDill AFB has developed plans to manage hazardous materials, hazardous wastes, and special hazards on the installation.

**Hazardous Materials.** AFI 32-7086, *Hazardous Materials Management*, establishes procedures and standards that govern management of hazardous materials throughout the USAF. It applies to all USAF personnel who authorize, procure, issue, use, or dispose of hazardous materials, and to those who manage, monitor, or track any of those activities. MacDill AFB has a hazardous materials management program in accordance with AFI 32-7086 (MAFB 2001b). The hazardous materials management program ensures that only the smallest quantities of hazardous materials necessary to accomplish the mission are purchased and used.

Hazardous and toxic material procurements are currently managed through a centralized Hazardous Materials Pharmacy (HAZMART) using the Environmental Management Information System (EMIS). The HAZMART is operated under a Memorandum of Agreement and is located in Building 49. The EMIS tracks acquisition and inventory control of hazardous materials as well as hazardous waste disposals and emissions, and health and safety information (MAFB 2001b).

There is one hazardous materials storage unit in operation in the MFH parcels. Building 740 in Parcel B2 is used for hazardous materials storage for housing maintenance. Hazardous materials at MacDill AFB are primarily found at buildings which support flightline operations and maintenance, as well as the hospital and service stations. Small quantities of hazardous materials, such as cleaners, solvents, antifreeze, gasoline, automobile batteries, and motor oil, likely exist or at one point existed in the MFH parcels.

**Hazardous Wastes.** Hazardous waste generated within Florida must be managed in accordance with USEPA, Florida, and USAF regulatory requirements. MacDill AFB has a *Hazardous Waste Management Plan* (MAFB 2001b) as directed by AFI 32-7042, *Solid and Hazardous Waste Compliance* which

incorporates AFI 32-7080, *Pollution Prevention Program*; AFI 32-7086, *Hazardous Materials Management Process*, and AFPD 32-7043, *Hazardous Waste Management Guide*. This plan prescribes the roles and responsibilities of all members of MacDill AFB with respect to the waste stream inventory, waste analysis plan, hazardous waste management procedures, training, emergency response, and pollution prevention. The plan establishes procedures to comply with applicable Federal, state, and local standards for solid waste and hazardous waste management.

Wastes generated at MacDill AFB include waste flammable solvents, contaminated fuels and lubricants, paint/coating, stripping chemicals, waste oils, waste paint-related materials, MSW, and other miscellaneous wastes. Management of hazardous waste is the responsibility of each waste-generating organization and the environmental management flight. MacDill AFB produces more than 2,200 kilograms of hazardous waste per month and is considered a large quantity generator. There are 52 initial accumulation points on the installation and one 90-day accumulation site. Waste containers are transferred from the initial points to the 90-day accumulation point (Building 1115) or the DRMO within 72 hours of being filled. There is no DRMO on MacDill AFB; a DRMO contractor picks up hazardous waste for off-installation disposal. Used antifreeze, oil, lead-acid batteries, and oil filters are recycled or, in the case of some used petroleum products, are used as supplementary heating fuels.

Each organization has appointed a primary and alternate manager for each hazardous waste site on MacDill AFB. Hazardous waste generators are required to maintain a listing of all the hazardous waste streams generated in their section, with proper identification, labeling, handling, storage, and record keeping.

**Storage Tanks.** A storage tank is a vessel and its associated piping that contain a product, whether it be petroleum or septic. From a regulatory perspective, if at least ten percent of the storage tank is underground, it is a UST. If less than ten percent of the storage tank is underground, it is an AST.

AFI 32-7044, *Storage Tank Compliance*, implements AFPD 32-70, *Environmental Quality*. It identifies compliance requirements for ASTs and USTs and associated piping that store petroleum products and hazardous substances. USTs are subject to regulation under the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. 6991, and 40 CFR Part 280.

There are two ASTs on Parcel B1 containing fuel for emergency power generators. Building 633 has a 50-gallon tank attached to a lift station and Building 769 has a 550-gallon tank; neither of the tanks is regulated. There are two regulated ASTs (5,000 gallons each) in the hospital area (Building 712) adjacent to Parcel C, containing fuel for emergency power generators. There is one unregulated 12,000-gallon AST in the hospital area (Building 708) containing heating oil. There are no known USTs in the MFH. However, there was one 2,000-gallon UST in what is now part of Parcel C. Because of contamination from this tank, it is further discussed under the *Environmental Restoration Program* subsection.

**Environmental Restoration Program.** MacDill AFB began its ERP in 1981 with 38 sites identified. This consisted of a Phase I Records Search to identify potential sites of concern that warranted further investigation. In accordance with USAF policy, all ERP sites at the installation are addressed in a manner consistent with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) or RCRA process. There are 58 Solid Waste Management Units (SWMUs) and ERP sites scattered throughout the installation. None of these sites have been identified on the National Priorities List under CERCLA. **Figure 3-7** shows the location of the SWMUs and ERP sites in the vicinity of MFH parcels on MacDill AFB. Plans for future development in the areas of any of the ERP sites should take into consideration the possible restrictions and constraints that they represent.

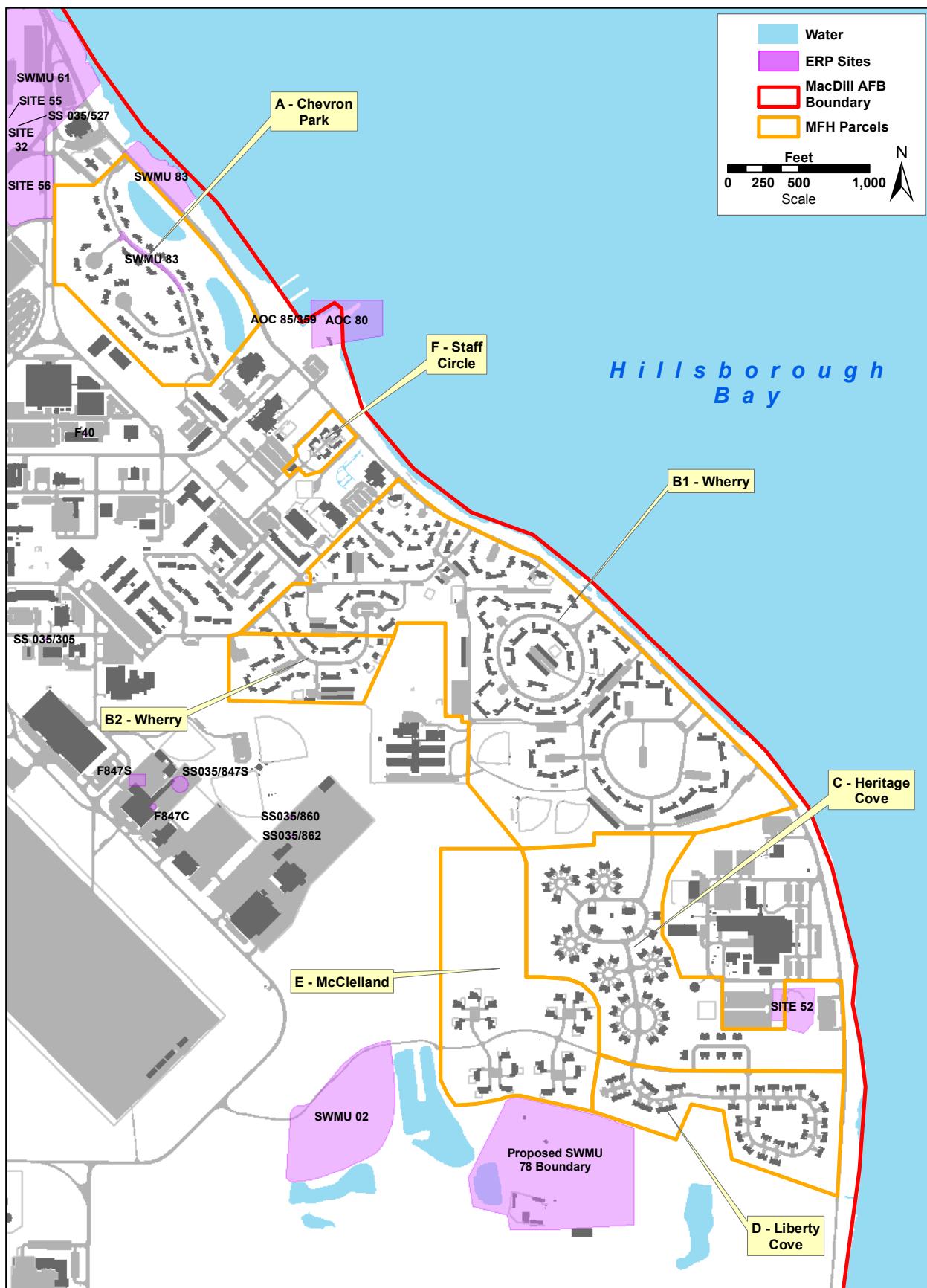


Figure 3-7. ERP Sites in the Vicinity of MFH Parcels

FDEP regulates clean-up activities at petroleum sites, and has entered into a Petroleum Agreement with MacDill AFB. The investigation and cleanup of SWMUs is conducted in accordance with the Hazardous and Solid Waste Amendment (HSWA) permit issued to the installation under USEPA ID No. FL6 570 024 582.

Based on the Environmental Baseline Survey of MFH parcels, only six ERP sites were identified as posing potential contamination. Three are entirely within or encroach upon a portion of a parcel (Site 52, SWMU 78, and SWMU 83) and three involve contaminated groundwater plumes that could potentially migrate to several of the MFH complexes in the future (SWMU 61, SWMU 35, and SWMU 76). There are other ERP sites or areas of concern in the general vicinity of the MFH parcels; however, these sites do not appear to be a potential threat to MFH residents. Site 52 and SWMUs 78, 83, 61, and portions of 35, are identified in **Figure 3-7**.

- **Site 52.** Site 52 is approximately 150 feet south of the main hospital building in Parcel C. This was the location of a hospital dorm from 1959 to 2004. In December 1990, approximately 750 gallons of No. 2 diesel fuel oil were accidentally released from a 2,000-gallon UST. While undergoing tank closure efforts in 1991, contaminated soil was encountered and subsequently removed at that time. Supplemental Remedial Action activities resulted in the excavation and removal of more soil from the site. Post excavation soil samples indicated that no constituents exceeded soil cleanup target levels; therefore, no further action was proposed for the soil at Site 52. Concentrations of benzene, ethylbenzene, naphthalene, and total recoverable petroleum hydrocarbons (TRPH) were detected in groundwater samples that were above groundwater cleanup target levels but below natural attenuation default concentrations. Monitored natural attenuation for groundwater is ongoing in seven monitoring wells (MAFB 2006c). Although groundwater and soil contamination exists at this site, the risk has been characterized as low to no risk (USAF 2006).
- **SWMU 78.** SWMU 78 is at the southern edge of golf course, along the periphery of Parcels D and E. The boundary of SWMU 78 encompasses one other ERP site, Site 48, which is not known to pose a risk. Potential contaminants at this site include arsenic and pesticides in the soils. Further investigations are underway to determine the extent of contamination. The relative risk has been characterized as medium due to the presence of arsenic (USAF 2006).
- **SWMU 83.** SWMU 83 is within and adjacent to Parcel A and along Bayshore Boulevard. During the construction of the Chevron Park MFH units in 1999, a wastewater conveyance line was unearthed. This line was suspected of being part of a 1940s-era water discharge conduit that began at the former flightline fueling system. The soil was screened for evidence of petroleum hydrocarbons. Further investigation revealed that soils around the entire MFH area contained benzo(a)pyrene, pesticides (chlordan), and arsenic exceeding the Florida soil clean-up target levels. There was no presence of contaminants in the groundwater as of 1999. Approximately 28,000 tons of contaminated soil were removed and disposed of. The site received a designation of No Further Action from FDEP on September 20, 2005.
- **SWMU 61.** SWMU 61 is one of the largest ERP sites at MacDill AFB, approximately 600 feet north and west of Parcel A. This ERP site includes contaminated soil and groundwater that have been impacted by chlorinated organics (trichloroethylene [TCE], dichloroethylene [DCE], dichloroethane [DCA], and vinyl chloride); benzene, toluene, ethylbenzene, xylene (BTEX); and arsenic. The extent of the chlorinated solvent plume has been verified by groundwater monitoring. Groundwater flow and transport modeling was conducted in 2003, followed by a Treatability Study Report in 2004. Groundwater flow is southeast toward Hillsborough Bay and in the direction of Parcel A (RE&I 1999). SWMU 29, with vinyl chloride contamination in the

groundwater, was incorporated into this site. This site is planned for closure in December 2021 (USAF 2006).

- **SWMU 35.** SWMU 35 comprises 21 oil-water separators (OWSs) and one hazardous waste accumulation point. Sites 35/860 and 35/862, which have received a designation of No Further Action, are approximately 950 feet from Parcels B1 and B2 and approximately 1,560 feet from MFH units in Parcels C and E. Other OWSs associated with Buildings 518 (OWS 4), 527 (OWS 5), and 552 (OWS 8) range from approximately 600 to 1,000 feet northwest of Parcel A (in SWMU 61). Contamination at these sites includes metals (e.g., antimony, arsenic, cadmium, iron, and lead), polycyclic aromatic hydrocarbons, TCE, total recoverable petroleum hydrocarbons (TRPH), and VOCs. Contamination has been collected in the groundwater, sediments, soil, and surface water. Sites 35/518, 35/527, and 35/552 have all been characterized as having a medium risk and are under investigation (USAF 2006).
- **SWMU 76.** SWMU 76 is on the west side of Hangar Loop Drive and consists of five aircraft hangars and three OWSs. SWMU 76 is approximately 1,200 feet west of Parcel A. This area had reportedly contained two used oil collection sites and two hazardous waste accumulation areas. In 1994 and 1995, the U.S. Geological Survey performed soil screening and a groundwater assessment. The results indicated that petroleum hydrocarbons and lead in concentrations exceeding groundwater clean-up target levels were present in the groundwater. Further investigation indicated low concentrations of chlorinated solvents are present in the groundwater as well as metals (e.g., aluminum, iron, and arsenic) exceeding their respective groundwater clean-up target levels. Additional soil and groundwater assessments were performed in 2001. This site is at the remedial design status and is expected for closure in December 2021 (USAF 2006).

**Asbestos-Containing Material.** Asbestos at MacDill AFB is managed in accordance with the Asbestos Management and Operations Plan (MAFB 2000b). This plan specifies procedures for the removal, encapsulation, enclosure, and repair activities associated with ACM-abatement projects. In addition, it is designed to protect personnel who live and work on the installation from exposure to airborne asbestos fibers as well as to ensure the installation remains in compliance with Federal, state, and local regulations pertaining to asbestos. Generally, abatement of asbestos occurs during renovation and demolition activities and when it becomes damaged and friable.

Many of the structures on MacDill AFB were built prior to 1966, before regulations were enacted regarding asbestos and ACM use. The 6th Civil Engineering Squadron, Environmental Flight (6 CES/CEV) maintains asbestos survey files. Some asbestos surveys have been completed for the units proposed for demolition (AMC 2005). All MFH units in Parcels B1, B2, E, and F (a total of 512 units) should be assumed to contain asbestos or ACM.

**Lead-Based Paint.** LBP at MacDill AFB is managed in accordance with the Lead-Based Paint Management Plan (MAFB 2003b). The 6 CES/CEV maintains LBP survey files. Some MFH units in Parcels B1, B2, E, and F have been found to have lead results as high as 32 milligrams per square centimeter ( $\text{mg}/\text{cm}^2$ ), which is higher than the regulatory limit of  $1.0 \text{ mg}/\text{cm}^2$ , though the majority of the results were below the regulatory limit.

**Radon.** Radon is a naturally occurring radioactive gas found in the soil and rocks; it comes from the natural breakdown or decay of uranium. Radon has the tendency to accumulate in enclosed spaces that are usually below ground and poorly ventilated (e.g., basements). Radon is an odorless, colorless gas that has been determined to increase the risk of developing lung cancer.

The USEPA's recommended mitigation "action level" is 4.0 picocuries per liter (pCi/L). The average (mean) radon level in U.S. homes is about 1.3 pCi/L, or three times the outdoor level of 0.4 pCi/L. Because there is no known safe level of radon exposure, USEPA recommends that Americans consider fixing their home for radon levels between 2.0 and 4.0 pCi/L. USAF policy requires implementation of the USAF Radon Management Plan to determine levels of radon exposure to military personnel and their dependents. The USAF's policy is to mitigate elevated levels of radon to acceptable levels and conduct follow-up sampling to validate the effectiveness of the mitigation.

Environmental Data Resources, Inc., assessed the level of radon activity in Hillsborough County, Florida (EDR 2005). The average level of radon activity found on first floor of residences was 0.940 pCi/L; fewer than ten percent of the 322 sites samples had radon levels above the USEPA radon action level (EDR 2005). The MFH units at MacDill AFB do not have basements, which are more susceptible to accumulating high levels of radon. MFH units in Parcels A and C are elevated, and many of the MFH units in Parcels B1, B2, and E are slab-on grade. No issues with increased levels of radon have been documented in the MFH units.

**Polychlorinated Biphenyls.** Polychlorinated biphenyls (PCBs) are a group of chemical mixtures used as insulators in electrical equipment, such as transformers and fluorescent light ballasts. Federal regulations govern items containing between 50 and 499 ppm of PCBs. Chemicals classified as PCBs were widely manufactured and used in the United States throughout the 1950s and 1960s. PCB-containing oil is typically found in older electrical transformers and light fixtures (ballasts).

Transformers containing greater than 500 ppm PCBs, between 50 and 500 ppm PCBs, and less than 50 ppm PCB are considered PCB, PCB-contaminated, and non-PCB, respectively. MacDill AFB has a PCB-free status; however, some of the older units could have light fixtures or surge protectors with low concentrations of PCBs.

**Mold.** Mold spores are commonly found in both indoor and outdoor air. Mold growth can occur indoors when excessive moisture or water accumulates. Some molds can grow on wood, paper, food, and carpets. As molds grow, they digest whatever they are growing on. Mold growth can cause damage to structures, as well as health effects via the production of allergens, irritants, and toxins. Mold growth was reported in units in Parcel A due to water intrusion. Repairs are underway to correct these problems.

**Ordnance.** There are no portions of the MFH within the explosive safety zones. There is no known ordnance on the MFH parcels.

## 4. Environmental Consequences

This section presents an evaluation of the environmental and socioeconomic consequences that could result from implementing the Proposed Action or the No Action Alternative. This chapter focuses on impacts considered potentially significant. The general approach followed throughout this section is to describe briefly the range of impacts that could occur and then provide a discussion of impacts that are considered significant.

The specific criteria for evaluating potential environmental effects of the Proposed Action or the No Action Alternative are also presented under each resource area. The significance of an action is measured in terms of its context and intensity. The following elaborates on the nature of characteristics that might relate to various environmental effects. Individual resource area presentations provide more subject-specific evaluation criteria.

**Short-term or long-term.** In general, short-term effects are those that would occur only with respect to a particular activity or for a finite period or only during the time required for construction or installation activities. Long-term effects are those that are more likely to be persistent and chronic.

**Direct or indirect.** A direct effect is caused by an action and occurs around the same time at or near the location of the action. An indirect effect is caused by an action and might occur later in time or be farther removed in distance but still be a reasonably foreseeable outcome of the action.

**Minor, moderate, or significant.** These relative terms are used to characterize the magnitude or intensity of an impact. A minor effect is slight, but detectable. A moderate effect is readily apparent. Significant effects are those that, in their context and due to their intensity (severity), have the potential to meet the thresholds for significance set forth in CEQ regulations (40 CFR 1508.27) and, thus, warrant heightened attention and examination for potential means for mitigation in order to fulfill the policies set forth in NEPA.

**Adverse or beneficial.** An adverse effect is one having unfavorable or undesirable outcomes on the man-made or natural environment. A beneficial effect is one having positive outcomes on the man-made or natural environment.

### 4.1 Noise

#### 4.1.1 Significance Criteria

A noise impact analysis typically evaluates potential changes to the existing noise environment that would result from implementation of a proposed action. Potential changes in the acoustical environment can be beneficial (i.e., if they reduce the number of sensitive receptors exposed to unacceptable noise levels or reduce the ambient sound level), negligible (i.e., if the total number of sensitive receptors to unacceptable noise levels is essentially unchanged), or adverse (i.e., if they result in increased sound exposure to unacceptable noise levels or ultimately increase the ambient sound level).

Noise from construction activities varies depending on the type of construction being done, the area that the project would occur in, and the distance from the source. To predict how the construction activities would impact adjacent populations, noise from each of the probable construction activities (demolition, grading, paving, and construction) was estimated. For example, as shown on **Table 3-1**, construction usually involves several pieces of equipment (e.g., forklifts and cranes) which can be used simultaneously.

#### **4.1.2 Proposed Action**

Intermittent short-term minor adverse effects from noise would be expected from implementation of the Proposed Action.

Projects under the Proposed Action would require demolition and building construction. All of the projects under the Proposed Action would occur on MacDill AFB property within existing MFH parcels.

Building construction and demolition work can cause noise emissions well above ambient sound levels. A variety of sounds come from graders, pavers, trucks, welders, and other work processes. **Table 3-1** lists noise levels associated with common types of construction equipment that are likely to be used under the Proposed Action. Since a typical urban neighborhood is usually around 60 to 70 dBA, noise emissions from construction projects can cause intermittent short-term, adverse impacts.

Construction noise varies depending on the type of construction being done, the area that the construction would occur in, and the distance from the source. The MFH projects are proposed on the east side of the installation. Examples of expected construction noise are as follows:

- Civilian populations living 3,500 feet away from building construction would experience intermittent noise levels of about 56 dBA.
- Military populations living 200 feet from demolition would experience intermittent noise levels of approximately 78 dBA.
- The hospital east of Parcel C would experience intermittent noise levels of approximately 72 dBA 500 feet from building construction.

Given the extent of the projects under the Proposed Action and the proximity to populations residing on MacDill AFB, impacts from construction noise are unavoidable. However, construction noise is short-term and would only occur during the daylight hours. Construction equipment would be used only as necessary and would be maintained to the manufacturer's specifications to minimize noise impacts. It is not anticipated that the short-term increase in ambient noise levels as a result of the Proposed Action would cause significant adverse impacts on the surrounding populations.

Noise impacts from increased traffic due to construction vehicles would also be temporary in nature. Major access routes into MacDill AFB pass by numerous residential areas. Therefore, it is anticipated that the Proposed Action would have short-term minor adverse noise effects as a result of the increase in traffic, most notably in the areas around South Dale Mabry Highway.

#### **4.1.3 No Action Alternative**

Under the No Action Alternative, there would be no change in baseline conditions and none of the proposed MFH demolition or construction projects would occur. Characterization of the noise environment would be as described in **Section 3.1.2**.

## 4.2 Land Use

### 4.2.1 Significance Criteria

The significance of potential land use impacts is based on the level of land use sensitivity in areas affected by a proposed action and compatibility of proposed actions with existing conditions. In general, a land use impact would be significant if it were to

- Be inconsistent or in noncompliance with existing land use plans or policies
- Preclude the viability of existing land use
- Preclude continued use or occupation of an area
- Be incompatible with adjacent land use to the extent that public health or safety is threatened
- Conflict with planning criteria established to ensure the safety and protection of human life and property
- Be inconsistent with a state coastal zone management program.

### 4.2.2 Proposed Action

Short-term minor adverse effects would be expected; however, long-term beneficial effects would be expected from improved housing. Since the Proposed Action is entirely on MacDill AFB property, there would be no short- or long-term effects on land uses in the cities of Tampa, Clearwater, St. Petersburg, or other surrounding communities.

Short-term minor adverse effects associated with the Proposed Action include temporary loss of MFH units during demolition activities. However, at no point during the demolition or reconstruction phase of the project would housing fall below the minimum required housing level of 571 units. Land surrounding the project areas could experience short-term, noise-related impacts during demolition and construction activities, as discussed in **Section 4.2.2**. The affected areas surrounding these housing developments are open space, community, and administration. Some of these areas, including the hospital east of Parcel C, are considered noise-sensitive.

Long-term beneficial effects would be expected from improved housing. Land under the Proposed Action would be conveyed to a private developer and would continue to be used for residential purposes. Therefore, there would be no changes to land use under the Proposed Action; residential property would remain residential. Currently, housing density is too high in several of the MFH neighborhoods on the installation. Since the Proposed Action would lower the total number of MFH units, housing density would decrease to acceptable levels in each neighborhood.

The proposed construction and demolition activities and leasing of Federal land associated with the Proposed Action would not be expected to be consistent with the FCMP. The USAF has prepared a Consistency Statement, provided in **Appendix F**.

### 4.2.3 No Action Alternative

Under the No Action Alternative, there would be no change in baseline conditions, and none of the proposed MFH demolition or construction projects would occur. MacDill AFB would continue to maintain existing MFH units for the future. Inadequacies in existing older MFH units and neighborhoods would persist.

## 4.3 Air Quality

### 4.3.1 Significance Criteria

The environmental consequences on local and regional air quality conditions near a proposed Federal action are determined based upon the increases in regulated pollutant emissions relative to existing conditions and ambient air quality. The impact in NAAQS attainment areas would be considered significant if the net increases in pollutant emissions from a Federal action would result in any one of the following scenarios:

- Cause or contribute to a violation of any national or state ambient air quality standard
- Expose sensitive receptors to substantially increased pollutant concentrations
- Represent an increase of ten percent or more in an affected AQCR emissions inventory
- Exceed any Evaluation Criteria established by a SIP.

As stated in **Section 3.3.2**, MacDill AFB is in attainment for NAAQS and there are no Class I areas nearby; therefore, the General Conformity Rule and PSD regulations do not apply to the Proposed Action.

### 4.3.2 Proposed Action

Short-term direct minor adverse effects would be expected. No long-term air quality effects would be expected from the Proposed Action. Regulated pollutant emissions from the Proposed Action would not contribute to or affect local or regional attainment status with NAAQS. The Proposed Action would generate air pollutant emissions as a result of grading, filling, compacting, demolition, and construction operations, but these emissions would be temporary and would not be expected to generate any off-site effects.

The construction projects would generate total suspended particulate and PM<sub>10</sub> emissions as fugitive dust from ground-disturbing activities (e.g., grading, demolition, soil piles) and combustion of fuels in construction equipment. Fugitive dust emissions would be greatest during the initial site preparation activities and would vary from day to day depending on the construction phase, level of activity, and prevailing weather conditions. The quantity of uncontrolled fugitive dust emissions from a construction site is proportional to the area of land being worked and the level of construction activity.

Fugitive dust emissions for various construction activities were calculated using emissions factors and assumptions published in USEPA's AP-42 Section 11.9 dated October 1998 and Section 13.2 dated December 2003 (USEPA 2006c). These estimates assume that 230 working days are available per year for construction (accounting for weekends, weather, and holidays). Using data from the National Oceanic and Atmospheric Administration, the average soil percent moisture was estimated to be around 85 percent (NOAA 2003). Wind speed of greater than 12 miles per hour is recorded nine percent of the time during the O<sub>3</sub> season (April 1 to October 31), which is based on average wind rose data and measured speed for Tampa, Florida (NRCS 2006b).

Construction activities would also result in emissions of criteria pollutants as combustion products from construction equipment, as well as evaporative emissions from architectural coatings and asphalt paving operations. These emissions would be of a temporary nature. The emissions factors and estimates were generated based using USEPA's AP-42 (USEPA 2006c).

For purposes of this analysis, the construction and demolition activities were distributed over the six-year transition period (from 2007 to 2012) to estimate fugitive dust and all other criteria pollutant emissions associated with the Proposed Action. **Table 4-1** presents the estimated annual construction PM<sub>10</sub> emissions associated with the Proposed Action at MacDill AFB. These emissions would produce slightly elevated short-term PM<sub>10</sub> ambient air concentrations. However, the effects would be temporary, and would fall off rapidly with distance from the MFH parcels.

Specific information describing the types of construction equipment required for a specific task, the hours the equipment is operated, and the operating conditions vary widely from project to project. For purposes of analysis, these parameters were estimated using established methodologies for construction and experience with similar types of construction projects. Combustion by-product emissions from construction equipment exhausts were estimated using USEPA's AP-42 emissions factors for heavy-duty, diesel-powered construction equipment (USEPA 2006c).

The construction emissions presented in **Table 4-1** include the estimated annual emissions from construction equipment exhaust associated with the Proposed Action. As with fugitive dust emissions, combustion emissions would produce slightly elevated air pollutant concentrations. Early phases of construction projects involve heavier diesel equipment and earthmoving, resulting in higher NO<sub>x</sub> and PM<sub>10</sub> emissions. Later phases of construction projects involve more light gasoline equipment and surface coating, resulting in more CO and VOC emissions. However, the effects would be temporary and fall off rapidly with distance from the proposed construction site; no long-term effects would be expected. Emissions estimates were based on the assumption that the Proposed Action would be completed over a six-year period from calendar year 2007–2012. All facilities scheduled for demolition and construction were equally divided over this timeframe.

Since the WCFIAQCR, including MacDill AFB, is in attainment for all criteria pollutants, General Conformity Rule requirements are not applicable. In addition, the Proposed Action would generate emissions well below ten percent of the emissions inventory for the WCFIAQCR (**Table 4-1**). Therefore, the Proposed Action is considered to have an insignificant effect on air quality within the WCFIAQCR and in vicinity of MacDill AFB. Because the emissions generated would be below the ten percent emissions inventory for WCFIAQCR, it is reasonable to assume that the temporary construction

**Table 4-1. Annual Construction Emissions Estimates from the Proposed Action  
Per Year of Construction and Demolition Activities**

Description	NO <sub>x</sub> (tpy)	VOC (tpy)	CO (tpy)	SO <sub>x</sub> (tpy)	PM <sub>10</sub> (tpy)
Proposed Construction Combustion	41.78	10.67	80.34	1.75	2.08
Proposed Construction Fugitive Dust	--	--	--	--	56.12
<b>Total Construction Emissions</b>	<b>41.78</b>	<b>10.67</b>	<b>80.34</b>	<b>1.75</b>	<b>58.20</b>
Regional Emissions	275,242	193,240	1,301,241	319,076	126,018
<b>Percent of Regional Emissions Inventory</b>	<b>0.015</b>	<b>0.006</b>	<b>0.006</b>	<b>0.001</b>	<b>0.046</b>

emissions caused by the Proposed Action would not cause a violation of the NAAQS. Therefore, no significant impact on regional or local air quality would result from implementation of the Proposed Action. The emissions calculations and regional air emissions comparisons are collectively presented in the Air Conformity Analysis provided in **Appendix G**.

The Proposed Action consists of land and facility conveyance, leases, construction, and demolition projects. A description of these activities is provided in **Section 2.1**. Conveyance and leasing aspects of the Proposed Action would not impact regional air quality.

Local and regional pollutant effects resulting from direct and indirect emissions from stationary emissions sources under the Proposed Action would be addressed through Federal and state permitting program requirements under New Source Review regulations (40 CFR Parts 51 and 52).

### **4.3.3 No Action Alternative**

Under the No Action Alternative, there would be no change in baseline conditions and none of the proposed MFH demolition or construction projects would occur. Characterization of air quality would be as described in **Section 3.3.2**.

## **4.4 Safety**

### **4.4.1 Significance Criteria**

If implementation of the proposed project were to substantially increase risks associated with the safety of construction personnel, contractors, or the local community, or substantially hinder the ability to respond to an emergency, it would represent a significant impact. Impacts were assessed based on the potential effects of construction activities.

### **4.4.2 Proposed Action**

Short-term minor adverse effects on construction contractors would be expected as a result of increased risks. Implementation of the proposed project would slightly increase the short-term risk associated with construction contractors performing work at the chosen project sites during the normal workday because the level of such activity would increase. Contractors would be required to establish and maintain safety programs. Projects associated with construction or demolition would not pose a safety risk to other MacDill AFB personnel, family members living in MFH areas, or to activities at or within the vicinity of the MFH parcels. Work areas surrounding construction and demolition activities would be fenced and appropriate signs posted to further reduce any safety risks to children and other family members in MFH. No impacts regarding fire hazards or public safety are expected to occur within the vicinity of the chosen project areas from construction and demolition projects planned as part of the Proposed Action.

### **4.4.3 No Action Alternative**

Under the No Action Alternative, there would be no change in baseline conditions and none of the proposed MFH demolition or construction projects would occur. There would be no effects on safety.

## 4.5 Geological Resources

### 4.5.1 Significance Criteria

Protection of unique geological features, minimization of soil erosion, and the siting of facilities in relation to potential geologic hazards are considered when evaluating potential impacts of a proposed action on geological resources. Generally, impacts can be avoided or minimized if proper construction techniques, erosion-control measures, and structural engineering design are incorporated into project development.

Analysis of potential impacts on geological resources typically includes the following steps:

- Identification and description of resources that could potentially be affected
- Examination of a proposed action and the potential effects the action could have on the resource
- Assessment of the significance of potential impacts
- Provision of mitigation measures in the event that potentially significant impacts are identified.

Impacts on geology and soils would be significant if they would alter the lithology, stratigraphy, and geological structure that control groundwater quality, distribution of aquifers and confining beds, and groundwater availability; or change the soil composition, structure, or function within the environment.

### 4.5.2 Proposed Action

**Topography.** Short-term minor adverse effects on the natural topography would be expected as a result of demolition, site preparation, and construction under the Proposed Action. The majority of the Proposed Action project sites would occur on topography that has been previously disturbed as a result of past installation activities. Fill material could be used in some areas to raise the elevation to 11 feet amsl in order to reduce the potential for adverse effects associated with flooding. This could add as much as six feet of fill in some areas.

All permitting requirements for erosion and sediment control would be met (see the permitting and erosion and sediment control requirements presented below in *Soils* discussion). MacDill AFB would ensure, where practical, that construction of new facilities be elevated in accordance with the installation's FPMP and Federal, state, and local regulations. All grading, excavation, and recontouring of soil materials would adhere to Federal, state, and local regulations and would comply with the FPMP. Therefore, minimal effects on regional or local topography or physiographic features would result from implementation of the Proposed Action.

**Geology.** No effects on geology would be expected as a result of implementing the Proposed Action. No new ground-disturbing activities would be expected in association with demolition or renovation of existing MFH units, and therefore no adverse effects on geology would be expected. It is anticipated that new construction would occur in previously disturbed areas.

**Soils.** Short- and long-term minor adverse effects on soils would be expected as a result of the demolition of existing MFH units and the construction of new MFH units. Site preparation during construction activities would be expected to directly impact soils as a result of grading, excavation, placement of fill, compaction, mixing, or augmentation. Additional adverse effects could occur as a result of erosion and associated sedimentation during construction and demolition, especially in highly erodible soils and where vegetation cover was removed during site development.

A Demolition Plan would be established and implemented by the PO as part of an overall Construction Management Plan. The Demolition Plan would provide a phased approach to demolition of existing units, appurtenances, and infrastructure reducing the area of soils exposed to potential erosion at a given time during the development process.

Erosion control would be a consideration of all ground-disturbing activities. All construction work at MacDill AFB is required to follow the procedures established in MacDill AFB Instruction 32-701, *Storm Water Pollution Prevention*. A NPDES construction permit from the FDEP would be required for any activity that would disturb greater than one acre of land. The requirement applies to all construction on the installation. The design engineer or construction contractor would be required to prepare a project-specific construction SWPPP as part of the NPDES construction permit process. The SWPPP for construction activities would include methods and procedures that address, at a minimum, pollution control BMPs for waste and material handling and storage, dewatering practices, erosion prevention and sediment control, site and BMP inspection procedures, and record-keeping. All permitted construction projects at MacDill AFB would be inspected to determine if pollution prevention BMPs were being implemented and maintained as required. The inspections would be performed by staff from the 6th Civil Engineering Squadron, Construction Management Flight and 6 CES/CEV. Any deficiencies would be reported to the contractor's site representative and the Contract Officer for correction. Compliance with MacDill AFB Instruction 32-701 is mandatory. Implementation and maintenance of erosion- and sediment-control practices consistent with the developed plans would minimize potential soil erosion and off-site sedimentation associated with implementation of the Proposed Action.

Demolition and construction activities on the installation would be expected to occur primarily in the footprint of the existing MFH units, resulting in only minimal potential increases in impervious surfaces at these locations. Overall, the total number of MFH units would be reduced from the current 752 units to 571, resulting in a reduction in impervious surfaces associated with the MFH units.

#### **4.5.3 No Action Alternative**

Under the No Action Alternative, there would be no change in baseline conditions and none of the proposed MFH demolition or construction projects would occur. Characterization of geological resources would be as described in Section 3.5.2.

### **4.6 Water Resources**

#### **4.6.1 Significance Criteria**

Evaluation criteria for impacts on water resources are based on water availability, quality, and use; existence of floodplains; and associated regulations. The Proposed Action would have adverse effects on water resources if it were to do one or more of the following:

- Reduce water availability or supply to existing users
- Overdraw groundwater basins
- Exceed safe annual yield of water supply sources
- Adversely affect water quality
- Endanger public health by creating or worsening health hazard conditions
- Threaten or damage unique hydrologic characteristics
- Violate established laws or regulations adopted to protect water resources.

The potential effect of flood hazards on a proposed action are important if such an action occurs in an area with a high probability of flooding.

#### 4.6.2 Proposed Action

**Groundwater.** No effects on the surficial aquifer or the regional Floridan aquifer would be expected as a result of the Proposed Action. The proposed construction and demolition activities would comply with all appropriate storm water control measures, which would reduce the potential for contaminant-laden storm water to enter the aquifers. MacDill AFB maintains appropriate spill prevention and control measures in the event of unexpected spills or leaks. Construction contractors would be responsible for maintaining all equipment to ensure there are no leaks. In addition, all construction activities would comply with requirements established under MacDill AFB Instruction 32-701, *Storm Water Pollution Prevention* (previously discussed in **Section 4.5.2**).

**Surface Water.** Short-term minor adverse effects on surface water quality could occur in association with demolition and construction activities as a result of erosion and transport of sediments in runoff to Hillsborough Bay and other surface waters on the installation.

MacDill AFB has an MS4 NPDES permit, which specifies BMPs for construction activities. For construction projects less than one acre, standard erosion- and sediment-control measures would be implemented (e.g., hay bales, silt fences, rip rap, sedimentation basins, seeding or sodding of disturbed areas, long-term soil stockpiling, and establishment of vegetative buffers) (MAFB 2001a). Construction and demolition projects that disturb more than one acre of land would require a NPDES general permit for construction activities, which would entail the preparation of a site-specific SWPPP and the development of more intensive BMPs (e.g., permanent retention ponds, temporary sediment basins, silt fencing, and berms). In addition, all construction activities would comply with requirements established under MacDill AFB Instruction 32-701, *Storm Water Pollution Prevention* (previously discussed in **Section 4.5.2**).

Overall, construction activities would have the potential for adverse effects on surface water quality, but the use of BMPs specified in the installation SWPPP and development of site-specific SWPPPs would minimize the potential for adverse effects.

**Floodplains.** In accordance with EO 11988, *Floodplain Management*, the USAF must demonstrate that there are no practicable alternatives to construction within a floodplain. Approximately 80 percent of MacDill AFB is in the 100-year floodplain, making it impractical to avoid construction within the floodplain. All of the MFH parcels are within the 100-year floodplain, as shown in **Figure 3-2**.

MacDill AFB is proactive in managing floodplain constraints and has developed a FPMP, which guides future development in the floodplain to preserve the beneficial functions of the floodplain and reduce the potential for property damage and other adverse environmental effects. The following guidelines from the FPMP for construction and proper storm water management activities would be followed to reduce the adverse effects associated with development in the floodplain (AMC 2006b):

- All new structures, including MFH units, not used solely for parking, storage, or infrastructure utilities would be elevated to at least 11.5 feet amsl and must be able to withstand sustained winds of 100 miles per hour (mph) and wind gusts of 120 mph.
- The lowest floor (including basement) would be elevated above the highest adjacent grade at least as high as 11.5 feet amsl, or together with attendant utility and sanitary facilities, be completely floodproofed to the (base flood) level to meet the floodproofing standard.

- A registered professional engineer or architect would develop or review structural design, specifications, and plans for the construction, and would certify that the design and methods of construction are in accordance with the accepted standards of practice.
- Sensitive equipment would be placed on the upper levels of buildings or floodproofed if they cannot be placed in these areas. Utilities would be floodproofed to prevent damage.
- New storm water retention areas would be created, as needed, for all projects that add impervious surfaces. Under the Proposed Action, overall impervious surfaces would decrease in the long-term. In the parcels where MFH units would be demolished and the parcels then redeveloped, storm water infrastructure would be constructed as appropriate to accommodate the Proposed Action. Storm water retention areas would be maintained to control invasive plant species that can interfere with the drainage.
- Where practicable, sidewalks, parking lots, and roads would be constructed with pervious material. Pervious materials allow water to enter the ground by virtue of their porous nature or by large spaces in the material. This material limits the direct discharge of pollutants into the environment and reduces the impacts of pollution. Pervious surfaces can be made of concrete, asphalt, open-celled stones, and gravel that are mixed in a manner that creates an open cell structure allowing water and air to pass through.

#### **4.6.3 No Action Alternative**

Under the No Action Alternative, there would be no change in baseline conditions and none of the proposed MFH demolition or construction projects would occur. Characterization of water resources would be as described in **Section 3.6.2**.

### **4.7 Biological Resources**

#### **4.7.1 Significance Criteria**

This section evaluates the potential impacts on biological resources under the Proposed Action and the No Action Alternative. The significance of impacts on biological resources is based on (1) the importance (i.e., legal, commercial, recreational, ecological, or scientific) of the resource, (2) the proportion of the resource that would be affected relative to its occurrence in the region, (3) the sensitivity of the resource to proposed activities, and (4) the duration of ecological ramifications. The impacts on biological resources are significant if species or habitats of high concern are adversely affected over relatively large areas. Impacts are also considered significant if disturbances could cause reductions in population size or distribution of a species of high concern.

Ground disturbance and noise associated with construction can directly or indirectly cause potential impacts on biological resources. Direct impacts from ground disturbance were evaluated by identifying the types and locations of potential ground-disturbing activities in correlation to important biological resources. Habitat removal and damage or degradation of habitats might be effects associated with ground-disturbing activities.

As a requirement under the ESA, Federal agencies are required to provide documentation that ensures that agency actions will not adversely affect the existence of any threatened or endangered species. The ESA requires that all Federal agencies avoid “taking” threatened or endangered species (which includes jeopardizing threatened or endangered species habitat). Section 7 of the ESA establishes a consultation process with USFWS that ends with USFWS concurrence or a determination of the risk of jeopardy from a Federal agency project.

The significance of impacts on wetland resources is proportional to the functions and values of the wetland complex. Wetlands function as habitat for plant and wildlife populations, including threatened and endangered species that depend on wetlands for their survival. Wetlands are valuable to the public for flood mitigation, storm water runoff abatement, aquifer recharge, water quality improvement, and aesthetics. On a global scale, wetlands are significant factors in the nitrogen, sulfur, methane, and carbon dioxide cycles. These parameters vary from year to year or from season to season. Quantification of wetlands functions and values, therefore, is based on the ecological quality of the site as compared with similar sites, and the comparison of the economic value of the habitat with the economic value of the proposed activity that would modify it. A significant adverse impact on wetlands would occur should either the major function or value of the wetland be significantly altered.

#### **4.7.2 Proposed Action**

The Proposed Action would result in short-term minor adverse effects on biological resources. MacDill AFB has an Integrated Natural Resources Management Plan (INRMP) (2005–2009) that contains detailed information about biological resource management; the Proposed Action would be implemented in accordance with the guidelines set forth in the INRMP (MAFB 2005a).

**Vegetation.** Short-term direct minor adverse effects and long-term indirect minor beneficial effects on vegetation would be expected from the Proposed Action. Short-term direct minor adverse effects would be expected as a result of limited vegetation disturbance associated with the use of heavy equipment and soil and storm water runoff would be expected in the landscaped areas adjacent to project demolition sites. The use of BMPs to reduce soil and storm water runoff would limit the intensity, duration, and extent of impacts on vegetation. In areas where vegetation is removed or disturbed, approved species of plants would be used for landscaping. Long-term indirect minor beneficial effects would be expected as a result of the net loss of MFH units and resulting increase in vegetated areas. No vegetation disturbance would result from conveyance of MFH units for use in their current condition.

**Wildlife.** Short-term indirect minor adverse effects on wildlife might occur as a result of construction and demolition noise associated with the Proposed Action. The land within the MFH parcel boundaries is an improved area that is not considered good wildlife habitat. Construction activities would not alter the habitat that supports amphibians, wading birds, or waterfowl that reside on MacDill AFB. Other birds, mammals, and reptiles that occur at the installation might visit the MFH areas, but are likely to spend the majority of their time in the undeveloped portions of the installation. Therefore, the effects of construction noise and heavy equipment use would be slightly adverse in the short term. However, wildlife affected or displaced by noise would recover once the construction noise has ceased.

**Protected Species.** Short-term indirect minor adverse effects might occur as a result of construction and demolition noise associated with the Proposed Action. Several avian Federal-listed species (e.g., wood stork) and state-listed species (e.g., roseate spoonbill, little blue heron, reddish egret, snowy egret, tricolored heron, white ibis, American oystercatcher, brown pelican, and black skimmer) are residents on MacDill AFB. It is not likely that the Proposed Action would have a direct effect on these species because they are primarily found in unimproved areas of the installation, such as along shoreline areas. The effects of construction noise and heavy equipment use would result in temporary disturbance. It is likely that if individuals are disturbed, they would relocate to the quieter portions of the MacDill AFB southern shoreline. The Proposed Action would not alter the long-term quality of protected species habitat at MacDill AFB.

The Proposed Action would have no effect on the bald eagle (federally threatened), gopher tortoise (Florida species of concern), or burrowing owl (Florida species of concern). These species are not known to reside within the MFH parcels. The USFWS has reviewed the EA and determined that the Proposed

Action is not likely to adversely affect resources that are protected under the ESA (see page C-7 of **Appendix C**).

**Essential Fish Habitat.** Short-term indirect minor adverse effects might occur as a result of increased sediment runoff into Hillsborough Bay. Sediment runoff would increase sedimentation and turbidity in EFH. Suspended materials can clog fish gills, lower growth rates, and affect egg and larval development (USEPA 1997). Implementation of BMPs to control sedimentation and erosion during demolition and construction activities would minimize the potential for adverse effects. NOAA has reviewed the EA and determined that no resources protected would be affected by the Proposed Action (see page C-13 of **Appendix C**).

**Wetlands.** No effects on wetlands would be expected. As shown in **Figure 3-6**, there are wetlands along and within several MFH parcels. Construction activities associated with the Proposed Action would not occur in or directly adjacent to wetland bodies. Implementation of BMPs to control sedimentation and erosion during demolition and construction would minimize the potential for adverse effects on wetlands that are in proximity to the MFH parcels.

Under the Proposed Action, the PO would be required to comply with all state and Federal laws and regulations. In accordance with EO 11990, the PO would avoid impacts on wetlands. To ensure that wetland boundaries are clearly defined, a current jurisdictional wetland determination must be obtained prior to activities that are in close proximity to wetlands or that have any potential to affect wetlands.

#### **4.7.3 No Action Alternative**

Under the No Action Alternative, there would be no change in baseline conditions and none of the proposed MFH demolition or construction projects would occur. Characterization of biological resources would be as described in **Section 3.7.2**.

### **4.8 Cultural Resources**

#### **4.8.1 Significance Criteria**

Under the NHPA, Federal agencies are required to provide documentation that the agency has considered the impacts of any proposed undertakings on historic properties. The NHPA establishes a consultation process with the SHPO, the Tribal Historical Preservation Office or tribal representatives of federally recognized tribes, and other interested parties that concludes with SHPO or Tribal Historic Preservation Office concurrence regarding the nature of any effect on historic properties and any required mitigation measures to be enacted to avoid or minimize that effect.

This section evaluates the potential effects on historic properties under the Proposed Action and the No Action Alternative. The only NRHP-eligible resources recorded within the parcels to be conveyed to the PO are the five MFH units and garage that comprise the GOQ Historic District; the PA regarding these resources is in **Appendix D**. Should implementation of either alternative result in the inadvertent discovery of archeological materials, human remains, or items of cultural patrimony (other than archeological materials), impacts on such resources might also be considered significant.

#### **4.8.2 Proposed Action**

Any transfer, lease, or sale of a historic property (or portion thereof) to a non-Federal party is considered an adverse effect under the NHPA. However, this process can be considered to have no adverse effect on

the property under 36 CFR 800.9 (c) (3) if “adequate restrictions or conditions are included to ensure preservation of the property’s significant historic features.” The USAF, the Florida SHPO, and the ACHP have prepared a PA to protect and preserve the historic integrity of the GOQ Historic District while under lease to the PO.

MacDill AFB has an ICRMP (2006–2010) that contains detailed information about cultural resource management, including the plans that are in place in the event of inadvertent discoveries of human remains or archeological materials, and guidance for the maintenance and treatment of historic buildings. Under the Proposed Action, all projects would be implemented in accordance with the guidelines set forth in the ICRMP. The ICRMP is administered by the MacDill AFB Cultural Resources Manager.

**Archaeological Resources.** No effect on archaeological resources would be expected. Neither of the two eligible archaeological sites recorded within MacDill AFB (the Runway Site and the Gadsden Point Site) are within the APE for the Proposed Action. Archaeological investigations of the land within the MFH parcels have determined that the potential for preservation of intact archaeological deposits within these areas is minimal due to previous disturbance associated with the construction of MacDill AFB in the early 1940s. Therefore, implementation of the Proposed Action would have no effect on archaeological resources.

As noted in **Section 2**, documents formalizing the lease of the MFH parcels would include language specifying that the PO would abide by the policies for inadvertent discovery of archaeological materials provided in the ICRMP for MacDill AFB. In the event of a discovery during construction, all work in the immediate vicinity of the discovery would be halted until the resources are identified and documented and an appropriate mitigation strategy developed in consultation with the SHPO and other consulting parties.

**Architectural Resources.** The GOQ Historic District (Parcel F), which includes five MFH units and one garage, has been determined eligible for listing in the NRHP. The USAF has consulted with the Florida SHPO and ACHP to develop a PA that will be included in the conveyance to the developer to ensure protection of this historic district. The PA is included in **Appendix D** of this EA.

Under the PA, the historical character of the GOQ Historic District property will be retained and preserved. Exterior additions or alterations to any of buildings within the historic district beyond those approved exempt activities identified in the PA are not considered within the scope of this Proposed Action but would be the subject of consultation between the PO and the SHPO. The PO will perform all work in the GOQ Historic District in accordance with the Secretary of the Interior’s *Standards for Rehabilitation and Illustrated Guidelines for Rehabilitating Historic Buildings* or in consultation with the SHPO. The PA will satisfy the provisions of 36 CFR 800.5 by providing for adequate and legally enforceable restrictions to ensure the preservation of the historic district’s significance upon the lease of the property out of Federal ownership or control. Therefore, a conveyance of the GOQ Historic District subject to the PA would result in no adverse effects on the historical integrity of that parcel.

In the event that demolition or construction is identified to potentially impact the viewshed or setting of NRHP-eligible buildings, structures, or districts, the PO would consult with the SHPO to determine the specific effects associated with the project APE for the Proposed Action.

**Properties of Traditional, Cultural, and Religious Significance to Native American Tribes.** No effects would be expected. As noted in **Section 3.8.2**, the only resources of concern to Native American tribes on MacDill AFB are the two eligible archaeological sites, the Gadsden Point Site in particular. Neither of these sites is within the APE for the Proposed Action. No other properties of traditional, cultural, or religious significance have been identified at MacDill AFB. Therefore, implementation of the Proposed Action would have no impact on properties of traditional, cultural, or religious significance. The

Miccosukee Tribe and the Seminole Tribe have reviewed the EA and determined there are no known cultural, historical, or religious sites in the APE (see pages C-9 and C-11 in **Appendix C**, respectively).

As noted in **Section 2**, documents formalizing the transfer and lease of the MFH parcels would include language specifying that the PO would abide by the policies for inadvertent discovery of human remains provided in the ICRMP for MacDill AFB. In the event of an inadvertent discovery of human remains during construction, all work in the immediate vicinity of the discovery would be halted until the resources are identified and documented and an appropriate mitigation strategy developed in consultation with the SHPO and other consulting parties. As specified in the ICRMP and in compliance with Federal laws (APRA, NHPA, and NAGPRA), concerned tribal representatives would be notified and consulted about the proposed treatment of human remains and funerary and sacred objects should these be discovered during implementation of the Proposed Action.

### **4.8.3 No Action Alternative**

Under the No Action Alternative, there would be no change in baseline conditions and none of the proposed MFH demolition or construction projects would occur. It is anticipated that MacDill AFB would continue to maintain the MFH units in Parcel F (the GOQ Historic District) in accordance with the guidelines set forth in the ICRMP, therefore avoiding adverse effects on historic properties. These MFH units require frequent maintenance and repairs.

## **4.9 Socioeconomics**

### **4.9.1 Significance Criteria**

Construction expenditure impacts are assessed in terms of direct effects on the local economy and related effects on other socioeconomic resources (e.g., housing). The magnitude of potential impacts can vary greatly, depending on the location of a proposed action. For example, implementation of an action that creates ten employment positions might go unnoticed in an urban area, but could have considerable impacts in a rural region. If potential socioeconomic changes were to result in substantial shifts in population trends or a decrease in regional spending or earning patterns, they would be considered adverse. The Proposed Action could have a significant effect with respect to the socioeconomic conditions in the surrounding ROI if it were to

- Change the local business volume, employment, personal income, or population that exceeds the ROI's historical annual change
- Adversely affect social services or social conditions, including property values, school enrollment, county or municipal expenditures, or crime rates
- Disproportionately impact minority populations or low-income populations.

### **4.9.2 Proposed Action**

Short-term minor beneficial effects on socioeconomics would be expected as a result of the Proposed Action. No long-term effects would be expected on socioeconomics. No effects on environmental justice would be expected.

**Social and Economic Characteristics.** No significant effects would be expected on employment levels, household income, or poverty levels under the Proposed Action. The use of local labor would have beneficial short-term effects on the ROI, but the long-term effects would be negligible. C&D activities

under the Proposed Action would provide short-term beneficial economic consequences for the MSA and ROI. It is expected that local supplies and labor would be used to provide possible short-term employment opportunities in the MSA or ROI. Purchase of construction materials and related supplies would generate additional income to the local economy in the ROI or MSA. Relocation of families off the installation as a result of decreased MFH units would have a long-term minor beneficial effect on the local economy through increased rentals.

**Environmental Justice.** No environmental justice impacts would be expected under the Proposed Action. Construction and demolition activities would occur on MacDill AFB and, therefore, have little potential to affect adjacent populations. Off-installation minority and low-income populations in Tracts 70 and 72 would not be adversely or disproportionately affected by the Proposed Action.

### 4.9.3 No Action Alternative

Under the No Action Alternative, there would be no change in baseline conditions and none of the proposed MFH demolition or construction projects would occur. Characterization of the socioeconomic condition would be as described in **Section 3.9.2**. No environmental justice effects would be expected.

## 4.10 Infrastructure

### 4.10.1 Significance Criteria

Effects on infrastructure are evaluated based on their potential for disruption or improvement of existing levels of service and additional needs for energy and water consumption, sanitary sewer and wastewater systems, and transportation patterns and circulation. Impacts might arise from physical changes to circulation, construction activities, introduction of construction-related traffic on local roads or changes in daily or peak-hour traffic volumes, and energy needs created by either direct or indirect workforce and population changes related to installation activities. In considering the basis for evaluating the significance of impacts on solid waste, several items are considered. These items include evaluating the degree to which the proposed construction projects could affect the existing solid waste management program and capacity of the area landfill. An effect might be considered adverse if a proposed action exceeded capacity of a utility.

### 4.10.2 Proposed Action

Short-term minor adverse effects on the transportation network and solid waste management would be expected as a result of construction and demolition activities. Long-term minor beneficial effects would be expected on the transportation network, electrical system, water supply system, sanitary sewer system, and storm water system as a result of improvements and upgrades. No effects on the communications or natural gas systems would be expected.

**Transportation Network.** Short-term minor adverse effects on the transportation network would be expected as a result of increased construction traffic. The C&D phase of the Proposed Action would require delivery of materials to and removal of debris from construction sites. Any road and lane closures would be coordinated with the Transportation Squadron and would be temporary in nature.

Long-term minor beneficial effects would be expected. Under the Proposed Action, all roads within the MFH parcels would be conveyed to the PO for the specified lease terms (AMC and AFCEE 2006). The PO would be responsible for the long-term maintenance and repairs of roads within MFH parcels. The PO might choose to construct new roads or modify existing roads for the long-term benefit of MFH residents. Direct and indirect long-term beneficial effects on transportation systems would occur due to

streets and intersections that would be improved and made more efficient. In addition, unsafe roadways and intersections would be realigned to conform to traffic safety laws and regulations. This would have an overall beneficial effect on traffic, as the new roads would be better designed to handle any additional traffic flow from the new buildings and would be done so in accordance with appropriate antiterrorism and force protection standards. Possible traffic growth as a result of the Proposed Action would place no undue burden on existing transportation systems. If an unforeseen traffic burden does arise, the PO would be responsible for construction and expansion projects to correct transportation problems (AMC and AFCEE 2006).

**Electrical System.** Long-term minor beneficial effects would be expected as a result of electrical infrastructure improvements. Under the Proposed Action, the electrical distribution system (not including any mains) would be conveyed to the PO for the specified lease terms (AMC and AFCEE 2006). The PO would be responsible for the long-term maintenance and repairs of the electrical distribution system. New electrical power lines would be placed underground, which would improve the survivability of the system. Existing electrical infrastructure is sufficient to meet demands; under the Proposed Action, long-term use of electricity would decrease because the number of MFH units would decrease. The proposed construction projects would use sustainable design concepts to the greatest extent possible; therefore, the Proposed Action would likely result in more efficient use of energy than current facilities. Overall, long-term minor beneficial effects would be expected.

**Communications System.** No effects would be expected. The computer network, cable, and telephone lines are currently owned and maintained by private contractors. Under the Proposed Action, private contractors would continue to operate, maintain, and upgrade the communications system. Overall demand for communications would be expected to decrease as a result of decreased MFH units, but this decrease would be negligible when compared to total installation communications requirements.

**Natural Gas System.** No effects would be expected on the natural gas system. Parcels A, C, D, and E do not have existing natural gas service. Within parcels that have natural gas service (Parcels B1, B2, and F), natural gas infrastructure (not including any mains) would be conveyed to the PO. However, all MFH units in those parcels would be demolished. Therefore, natural gas usage would decrease, but this would be a negligible decrease when compared to total installation usage.

Under the Proposed Action, the PO could choose to install natural gas lines to the parcels that do not have them, but this would be at the discretion of the PO. In the event that natural gas lines would be installed, all digging and implementation would be overseen by MacDill AFB personnel to ensure that applicable safety criteria (including ERP constraints) are met. It would be the responsibility of the PO to obtain all permits. The PO would be subject to the terms of agreement with the People's Gas Company of Tampa, who supplies natural gas to MacDill AFB. In the event that natural gas lines would be installed, no adverse effects would be expected.

**Water Supply System.** Long-term minor beneficial effects would be expected as a result of water supply infrastructure improvements. Under the Proposed Action, the water supply distribution system (not including any mains) would be conveyed to the PO for the specified lease terms (AMC and AFCEE 2006). The PO would be responsible for the long-term maintenance and repairs of the water system. Existing infrastructure is sufficient to meet demands; under the Proposed Action, long-term use of water would decrease because the number of MFH units would decrease. The proposed construction projects would use sustainable design concepts to the greatest extent possible; therefore, the Proposed Action would result in installation of appliances and devices that conserve more water than current facilities. Overall, long-term minor beneficial effects would be expected.

**Sanitary Sewer System.** Long-term minor beneficial effects would be expected as a result of sanitary sewer infrastructure improvements. Under the Proposed Action, the sanitary sewer system (not including

any mains or lift stations) would be conveyed to the PO for the specified lease terms (AMC and AFCEE 2006). The PO would be responsible for the long-term maintenance and repairs of the sanitary sewer system. Existing sanitary sewer infrastructure is sufficient to meet demands; under the Proposed Action, long-term use of the sanitary sewer would decrease because the number of MFH units would decrease. Overall, long-term minor beneficial effects would be expected.

**Storm Water Systems.** Long-term minor beneficial effects would be expected as a result of decreased impervious surface area. Under the Proposed Action, storm water infrastructure would be conveyed to the PO for the specified lease terms (AMC and AFCEE 2006). The PO would be responsible for the long-term maintenance and repairs of the storm water system, including control of invasive plant species that can interfere with the drainage. The Proposed Action would result in the demolition of 507 MFH units in Parcels B and E and the subsequent construction of 331 MFH units in Parcels A, B1, C, D, or E (location of construction units would be at the discretion of the PO). The PO would be responsible for the evaluation, design, and construction of storm water infrastructure in the areas of redevelopment. Ultimately, the Proposed Action would result in a decrease of MFH units and a decrease in total impervious surfaces. Overall, long-term minor beneficial effects would be expected.

**Solid Waste.** Short-term direct minor adverse effects would result from increased solid waste production during construction and demolition activities. Solid waste generated from the proposed construction and demolition activities would consist of building materials such as solid pieces of concrete, metals (conduit, piping, and wiring), and lumber. There is not a landfill on MacDill AFB. All debris would be hauled to a government-approved landfill off the installation.

As shown in **Table 4-2**, approximately 49,693 tons of C&D waste would be generated over the next six years as a result of the Proposed Action. The PO would be encouraged to research and pursue economical means of selling or recycling C&D debris to divert the amount of waste that would be landfilled. Generation of large quantities of C&D is a short-term adverse effect.

No long-term effects would be expected. Refuse and recycling collection are currently performed under contract by Waste Management of Tampa; these functions would become the responsibility of the PO under the Proposed Action. Generation of MSW would be expected to decrease as a result of the Proposed Action because there would be fewer MFH units. However, generation of yard waste would be expected to increase because there would be landscaped areas where there once had been MFH units. Overall, these changes in MSW and yard waste would be negligible when compared to total installation generation.

**Table 4-2. Construction and Demolition Waste Generation from the Proposed Action**

<b>Project</b>	<b>Total Floor Area (ft<sup>2</sup>)</b>	<b>Multiplier (pounds/ft<sup>2</sup>)</b>	<b>C&amp;D Waste Generated</b>	
			<b>Pounds</b>	<b>Tons</b>
Construction Activities	639,823	4.38	2,802,425	1,401
Demolition Activities	760,500	127	96,583,500	48,292
		<b>Total</b>	<b>99,385,925</b>	<b>49,693</b>

Source: Estimated using USEPA 1998

Notes:

ft<sup>2</sup> = square feet

<sup>a</sup> Construction includes 331 units with an average floor area of approximately 1,933 ft<sup>2</sup>.

<sup>b</sup> Demolition includes 507 units with an average floor area of approximately 1,500 ft<sup>2</sup>.

### **4.10.3 No Action Alternative**

Under the No Action Alternative, there would be no change in baseline conditions, and none of the proposed MFH demolition or construction projects would occur. MacDill AFB would continue to maintain existing infrastructure in MFH units. Inadequacies in existing infrastructure would persist until upgrades and replacement projects are funded and completed.

## **4.11 Hazardous Materials and Waste**

### **4.11.1 Significance Criteria**

Impacts on hazardous materials and waste management would be considered significant if the Proposed Action resulted in noncompliance with applicable Federal and FDEP regulations, or increased the amounts generated or procured beyond current MacDill AFB waste management procedures and capacities. Impacts on pollution prevention would be considered significant if the Federal action resulted in worker, resident, or visitor exposure to these materials, or if the action generated quantities of these materials beyond the capability of current management procedures. Impacts on the ERP would be considered significant if the Federal action disturbed or created contaminated sites resulting in adverse effects on human health or the environment.

### **4.11.2 Proposed Action**

Short-term minor adverse effects as a result of increased use of hazardous materials and exposure to hazardous wastes and potentially contaminated sites would be expected. Long-term beneficial effects as a result of ACM, LBP, and mold abatement would also be expected.

Under the Proposed Action, the PO would be required to prepare and implement an Environmental Management Plan to ensure compliance with environmental requirements. This plan would address, but not be limited to, compliance with environmental laws and regulations pertaining to, ACM, LBP, radon, USTs, soil contamination, spill prevention, hazardous materials and waste, storm water construction permit compliance, storm water post-construction design, dust control, noise control, pest control, environmental permits and regulatory compliance, recycling and waste minimization, sewage overflows, water, and wastewater (AMC and AFCEE 2006).

**Hazardous Materials.** Short-term minor adverse effects would be expected as a result of increased hazardous materials use. Products containing hazardous materials would be procured and used during the proposed MFH demolition and construction activities. It is anticipated that the quantity of products containing hazardous materials used during the construction and demolition activities would be minimal and their use would be of short duration. Contractors would be responsible for the management of hazardous materials, which would be handled in accordance with Federal and state regulations. The PO would be responsible for the long-term storing, handling, and disposal of the hazardous materials used for MFH maintenance in accordance with Federal and state regulations. Overall, hazardous materials management at MacDill AFB would not be impacted by the Proposed Action.

**Hazardous Waste.** Short-term minor adverse effects would be expected. It is anticipated that the quantity of hazardous wastes generated from proposed MFH demolition and construction activities would be minor, primarily consisting of used hazardous materials and removal of LBP or ACM in building materials. Removal of ACM and LBP would be in accordance with Federal, state, local, and USAF regulations. Contractors would be responsible for the disposal of hazardous wastes generated during construction and demolition activities in accordance with Federal and state regulations. The PO would be

responsible for the long-term storing, handling, and disposal of the hazardous wastes generated for MFH maintenance in accordance with Federal and state regulations. Overall, hazardous wastes management at MacDill AFB would not be impacted by the Proposed Action.

**Storage Tanks.** No effects would be expected. There are two unregulated ASTs in Parcel B1, and several other ASTs in the hospital area adjacent the Parcel C. Under the Proposed Action, these storage tanks would continue to be used in their existing condition. These tanks pose no new concerns or risks to the MFH parcels.

**Environmental Restoration Program.** Short-term adverse effects during groundbreaking activities could be expected in Parcels A, C, D, and E. SWMU 83 occurs in Parcel A. ERP Site 52 occurs in Parcel C, though not in the immediate area of existing MFH units. SWMU 78 occurs on the southern boundary of Parcel E and the southwestern boundary of Parcel D. SWMU 78 has been characterized as having a medium risk. Long-term adverse effects associated with the migration of contaminants from SWMU 61 have the potential to occur. Sites 35/518, 35/527, 35/552, 35/860, and 35/862 associated with SWMU 35 and SWMU 76 would not be expected to result in any future contamination of MFH parcels because of their distance. As discussed in **Section 3.11.2**, SWMU 83 was discovered during the construction of the Chevron Park MFH units (in Parcel A), on the former site of Wherry-era MFH units. Parcels B1 and B2 contain Wherry-era MFH units similar in type and year of construction to those formerly in Parcel A. There is a possibility that contamination might also be present in Parcels B1 and B2 like that found in Parcel A (i.e., chlordane); however, no documentation or sampling has been performed to confirm this. Under the Proposed Action, the PO would demolish units on Parcels B1 and B2; Parcel B1 could be used to construct new MFH units, and Parcel B2 would convey back to the installation.

Contaminated groundwater or soil could be encountered if the PO chooses to construct any of the 331 new MFH units in Parcels A, B1, C, D, and E. The PO would not remove any soil from MacDill AFB without appropriate environmental testing and written consent from the Installation Commander. The PO should coordinate efforts with personnel at MacDill AFB prior to any groundbreaking activities in Parcels A, B1, C, D, and E to assess the risks and determine if a health and safety plan would be necessary, in accordance with OSHA requirements. In the event that unknown contamination is encountered during any groundbreaking activities, the PO would halt work immediately and coordinate efforts with MacDill AFB to determine type and extent of contamination and remedial activities.

The USAF would be responsible for the clean-up and removal of any contaminants found during demolition and construction activities. Workers performing soil-removal activities within the contaminated site would be required to have OSHA 40-hour Hazardous Work Operations and Emergency Responses (HAZWOPER) training, and site supervisors would be required to have an OSHA Site Supervisor certification. Handling, storage, transportation, and disposal activities of contaminated materials would be conducted in accordance with applicable Federal, state, and local regulations; AFIs; and MacDill AFB programs and procedures. HAZWOPER regulations that protect workers and the public at or near a hazardous waste clean-up site are discussed in 29 CFR 1910.120 and 29 CFR Part 1926. The Hazardous Sites Cleanup Act 108 of 1988 provides the regulations for the cleanup of hazardous waste sites, and response and investigation for liability and cost recovery; and established the Hazardous Sites Cleanup Fund. Prior to occupancy of newly constructed housing on any of the MFH parcels, the PO would be responsible for having a competent risk assessor carry out a representative sampling of soil immediately surrounding the housing, gardens, and children's play areas (AMC and AFCEE 2006).

**Asbestos-Containing Materials.** Short-term minor adverse and long-term minor beneficial effects would be expected. MFH units in Parcels B1, B2, E, and F should be assumed to have ACM because of their age. Some of the buildings scheduled for demolition might contain ACM.

The PO would be responsible for inquiring as to whether MacDill AFB has records of the location, type, quantity, and characteristics of asbestos in any MFH unit or other leased structures prior to renovation, maintenance, repairs, or construction that could disturb suspect materials. If MacDill AFB does not have adequate records to substantiate the status or presence of ACM, the PO would obtain the necessary confirmatory samples and obtain analysis by a laboratory, certified by the applicable state, for the analysis of bulk materials for asbestos (AMC and AFCEE 2006).

Caution and adherence to asbestos-removal regulations and guidelines would be followed by the PO. Sampling for ACM would occur prior to demolition activities and would be handled in accordance with the MacDill AFB Asbestos Management and Operations Plan (MAFB 2000b) and USAF policy. If disturbance of these materials would become necessary, properly trained personnel using the proper protective equipment would abate the material, disposing it in the manner prescribed by current environmental regulations. Sampling, removal, and disposal of any ACM would be short-term in duration.

Specifications for the proposed renovation activities and USAF regulations prohibit the use of ACM for new construction. Therefore, some building materials containing asbestos would be replaced with new materials without asbestos. The new materials without asbestos would provide long-term beneficial effects of less asbestos in MFH areas.

**Lead-Based Paint.** Short-term minor adverse and long-term minor beneficial effects would be expected. Some of the buildings scheduled for demolition contain LBP.

The PO would be responsible for inquiring as to whether MacDill AFB has records on the location of LBP in any MFH unit or other structure prior to start of work that might disturb such materials. If additional information is required to substantiate the status or presence of LBP, the PO would perform necessary sampling and analysis in accordance with applicable law. Sampling for LBP would be handled in accordance with the MacDill AFB Lead-Based Paint Management Plan (MAFB 2003b) and USAF policy. If disturbance of these materials would become necessary, properly trained personnel using the proper protective equipment would abate the material, disposing it in the manner prescribed by current environmental regulations. Sampling, removal, and disposal of any materials with LBP would be short-term in duration.

Specifications for the proposed renovation activities and USAF regulations prohibit the use of LBP for new construction. Therefore, some building materials with LBP might be replaced with new materials not covered with LBP. The new materials without LBP would provide long-term beneficial effects of less LBP in MFH areas.

**Radon.** No effects would be expected. Although radon is typically found to collect in basements, EDR indicates that nearly 93 percent of the homes tested (first floor) in Hillsborough County had radon concentrations less than 4.0 pCi/L (EDR 2005). If radon levels were found above the action level, mitigation would be enacted.

**Polychlorinated Biphenyls.** Short-term minor adverse effects from PCBs would be expected. All of the transformers within the MacDill AFB MFH parcels are non-PCB transformers. However, possible sources of PCBs in the MFH areas include transformers containing less than 50 ppm PCBs, electrical light ballasts, capacitors, and surge protectors.

**Mold.** Short-term minor adverse and long-term minor beneficial effects could be expected. Demolition or renovation of any moldy areas in the MFH areas would require the use of proper protective equipment

and could delay demolition efforts. However, removal of the moldy building materials and repair of water leaks or moisture accumulation areas would assist in preventing future mold problems.

**Ordnance.** No effects would be expected. There is no known ordnance within the MFH areas.

#### **4.11.3 No Action Alternative**

Under the No Action Alternative, there would be no change in baseline conditions and none of the proposed MFH demolition or construction projects would occur. Characterization of hazardous material and waste management would be as described in **Section 3.11.2**

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## 5. Cumulative Effects

CEQ defines cumulative effects as the “impacts on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions” (40 CFR 1508.7). Although individual impacts of various actions might be minor, taken together their effects could be significant.

Impacts subject to cumulative effects analysis are identified by reference to the temporal span and spatial area in which the Proposed Action would cause effects. It is estimated that the construction and demolition of MFH would occur over six years. For the purposes of this analysis, the temporal span of the Proposed Action includes projects reasonably foreseeable during the six-year construction and demolition period. For most resources, the spatial area for consideration of cumulative effects is MacDill AFB, and more specifically, the eastern portion of MacDill AFB, near the MFH parcels.

The essence of the Proposed Action is redevelopment (i.e., demolition, road construction, use, and maintenance of MFH on the installation). An Installation Development Environmental Assessment (IDEA) has been prepared to evaluate construction, demolition, and infrastructure projects on an installation-wide level. Numerous projects analyzed in the IDEA would be expected to occur concurrently with the Proposed Action, if implemented. The MFH construction, in combination with the installation development analyzed in the IDEA, would have cumulative effects on air quality. Site preparation would produce fugitive dust, and use of heavy construction equipment would produce air emissions. These effects on air quality would be limited to MacDill AFB. Effects on air quality would be of a finite duration, lasting only during the period of site preparation, demolition, and construction activities.

Projects analyzed in the IDEA would be in a variety of areas designated in the installation land use plan for airfield, airfield operations, industrial, administrative, and community uses. Many of these areas are presently developed; a substantial number of the projects would include demolition of existing old or inadequate facilities. Nevertheless, there would continue to be a small degree of removal of natural resource components of the ecological environment. That is, construction would increase impervious surfaces, possibly eliminate small portions of habitat, and require the removal of vegetation (both native and ornamental). These effects would be minor because most areas of MacDill AFB are previously disturbed. In the context of MacDill AFB, these types of cumulative effects are long-term and adverse, but minor.

Under the Proposed Action, there would be a substantial reduction in the number of MFH units for USAF and other qualified personnel. Past management practices, based on a “customer demand” philosophy, led to the existing inventory of 752 MFH units. Implementation of the Proposed Action, reflecting a different management philosophy,<sup>3</sup> would decrease the inventory of housing to 571 MFH units. The present action would reverse the past actions of constructing and maintaining a large on-installation MFH

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<sup>3</sup> In a revised paradigm, the USAF analyzes its housing needs in a way that typically results in there being fewer government housing units. Now, to establish the on-base minimum housing requirement, base officials identify four key demographic areas: the number of key and essential personnel, the number of historic housing units, 10 percent of all grades (enlisted and officer), and the number of service members whose total income is less than 50 percent of the average median income in the community. Using the highest number in each of those categories by grade, the installation determines its minimum on-base housing requirement, also called the “floor requirement.” The number of remaining personnel, representing those who need to be housed off base, is then compared to the availability of homes in the local community. When the community can meet the entire requirement, only the floor number is provided on base. If the community cannot provide adequate housing for those people, the number of people who cannot be housed in the local community is added to the floor requirement to get the total number of homes USAF needs to provide on base.

inventory for USAF personnel. The majority of MFH for personnel assigned to MacDill AFB would continue to be supplied by the local economy. No cumulative effects would be expected as a result of comparing the present action to historic actions leading to the installation's relatively high inventory of MFH.

## **6. Preparers**

This EA has been prepared by e<sup>2</sup>M under the direction of Headquarters AMC at Scott AFB, and the 6th Air Mobility Wing at MacDill AFB. The individual contractors that contributed to the preparation of this document are listed below.

**Louise Baxter**

M.P.A. Public Administration

B.S. Political Science

Years of Experience: 6

**Shannon Cauley**

B.S. Geology

USACE Certified Wetland Delineator

Certified Professional Soil Scientist

Years of Experience: 22

**Suanne Collinsworth**

M.S. Environmental Sciences and Engineering

B.S. Geology

Certificate of Water Quality Management

Years of Experience: 7

**Dr. Sue Goodfellow**

Ph.D. Anthropology

B.A. Anthropology and Archaeology

Years of Experience: 20

**George Greczmiel**

B.A. Economics

Years of Experience: 1

**Bridget Kelly**

B.S. Biology

Years of Experience: 8

**Daniel Koenig**

B.S. Environmental Policy and Planning

Years of Experience: 2

**Ron Lamb**

M.S. Environmental Science

M.A. Political Science/International Economics

B.A. Political Science

Certified Environmental Professional

Years of Experience: 21

**Sean McCain**

M.B.A. Business Administration

B.S. Forestry and Natural Resources Management

Years of Experience: 11

**Dr. Michael Moran**

Ph.D. Biochemistry

Registered Environmental Manager

Years of Experience: 23

**Tanya Perry**

B.S. Environmental Science

B.A. Communications

Years of Experience: 6

**Devin Scherer**

B.S. Biology

Years of Experience: 2

**Adam Turbett**

B.S. Environmental Studies

Years of Experience: 2

**Jeffrey Weiler**

M.S. Resource Economics/Environmental Management

B.A. Political Science

Years of Experience: 32

**Mary Young**

B.S. Environmental Science

Years of Experience: 4

## 7. References

AFCEE 2004 Air Force Center for Environmental Excellence (AFCEE). 2004. Overview of Privatization. Available online: <<http://www.hqafcee.brooks.af.mil/dc/dcp/news/legal/legalcontacts.asp>>. Accessed September 22, 2004.

Albury 2004 Albury, Keith. 2004. *Multiple Hazards and Community Vulnerability in Hillsborough County, Florida*. Thesis statement for Masters of Arts for Geology Department, College of Arts and Sciences, University of South Florida, reviewed by Dr. Paul Zandbergen, Dr. Graham Tobin, and Dr. Jayajit Chakraborty. Approved July 14, 2004. Available online: <[http://etd.fcla.edu/SF/SFE0000421/thesis\\_final2.pdf](http://etd.fcla.edu/SF/SFE0000421/thesis_final2.pdf)>. Accessed January 31, 2007.

AMC 2005 Air Mobility Command (AMC). 2005. *Environmental Assessment for Renovation and Small Addition for AGE Facility, MacDill AFB, Florida*. May 2005.

AMC 2006a AMC. 2006. *Housing Requirements and Marketing Analysis 2003–2008, MacDill Air Force Base, Florida*. Prepared for Headquarters AMC by Parsons Corporation in association with Science Applications International Corporation. May 2006.

AMC 2006b AMC. 2006. *Floodplain Management Plan, MacDill Air Force Base, Florida*. Prepared by e<sup>2</sup>M. July 2006.

AMC and AFCEE 2006 Air Mobility Command and Air Force Center for Environmental Excellence (AMC and AFCEE). 2006. *Privatization of Military Family Housing AMC East Group Andrews Air Force Base and MacDill Air Force Base, One-Step Request for Proposal*. April 24, 2006. Available online: <[http://www.jllpsc.com/AMC\\_East/Combined\\_Group/Request\\_for\\_Proposal/request\\_for\\_proposal.html](http://www.jllpsc.com/AMC_East/Combined_Group/Request_for_Proposal/request_for_proposal.html)>. Accessed July 7, 2006.

BLS 2006 Bureau of Labor Statistics (BLS). 2006. Local Area Unemployment Statistics. Available online: <<http://data.bls.gov/cgi-bin/surveymost>>. Accessed on July 13, 2006.

COL 2001 City of Lodi (COL). 2001. *City of Lodi Community Development Department ProStyle Sports Complex Draft Environmental Impact Report*. Prepared by Parsons. December 2001. Available online: <<http://www.lodi.gov/eir/index.htm>>. Accessed November 11, 2005.

EDR 2005 Environmental Data Resources, Inc. (EDR). Radius Map with Geocheck Report, *MacDill AFB MFH, MacDill AFB, Florida, 33621*. Inquiry Number: 1455651.2s. July 1, 2005.

Ferriter 1997 Ferriter, Amy, ed. 1997. *Brazilian Pepper Management Plan for Florida*. Prepared by the Brazilian Pepper Task Force. July 1997. Available online: <<http://aquat1.ifas.ufl.edu/brazipep.pdf>>. Accessed November 3, 2005.

FWC 2004 Florida Fish and Wildlife Conservation Commission (FWC). 2004. *Florida's Endangered Species, Threatened Species, and Species of Special Status*. January 29, 2004. Available online: <<http://myfwc.com/imperiledspecies/pdf/Endangered-Threatened-Special-Concern-2004.pdf>>. Accessed November 4, 2005.

GMFMC 1998 Gulf of Mexico Fishery Management Council (GMFMC). 1998. *Generic Amendment for Addressing Essential Fish Habitat Requirements in the Following Fishery Management Plans in the Gulf of Mexico: Shrimp Fishery of the Gulf of Mexico, United States Waters; Red Drum Fishery of the Gulf of Mexico; Reef Fish Fishery of the Gulf of Mexico; Coastal Migratory Pelagic Resources (Mackerels in the Gulf of Mexico and South Atlantic; Stone Crab Fishery of the Gulf of Mexico; Spiny Lobster in the Gulf of Mexico and South Atlantic; Coral and Coral Reefs of the Gulf of Mexico*. Tampa, FL: Gulf of Mexico Fishery Management Council. October 1998.

Harrison 2006 Harrison, M. 2006. Record of communication between Mr. Mike Harrison (36 CES) and Ms. Mary Young (e<sup>2</sup>M) discussing the volume of treated water at the MacDill AFB wastewater treatment plant. October 11, 2006.

Landrum & Brown 2002 Landrum & Brown, Inc. 2002. "Common Noise Sources." Available online: <[www.landrum-brown.com/env/PVD/EIS/Jan%202002%20Chapter%204/4%201-1%20%20common\\_noise\\_sources.pdf](http://www.landrum-brown.com/env/PVD/EIS/Jan%202002%20Chapter%204/4%201-1%20%20common_noise_sources.pdf)>. Accessed July 6, 2004.

MAFB 1995 MacDill Air Force Base (MAFB). 1995. *Endangered Species Management Plan, MacDill Air Force Base (Preliminary Draft)*. Prepared by Geraghty & Miller, Inc. December 1995.

MAFB 2000a MAFB. 2000. *Solid Waste Management Plan, Version 1*. USAF, MacDill Air Force Base, Florida. August 2000.

MAFB 2000b MAFB. 2000. *Asbestos Management and Operations Plan for MacDill AFB, Florida*. March 2000.

MAFB 2001a MAFB. 2001. *Storm Water Pollution Prevention Plan for MacDill AFB*. January 2001.

MAFB 2001b MAFB. 2001. *Hazardous Waste Management Plan, MacDill AFB, FL*. December 2001.

MAFB 2002 MAFB. 2002. *FY 2002 Economic Impact Analysis*.

MAFB 2003a MAFB. 2003. *Final Wherry Housing Historic Building Inventory and Evaluation, MacDill Air Force Base*. Prepared by Earth Tech, Inc.

MAFB 2003b MAFB. 2003. *Lead-Based Paint Management Program*. MacDill Air Force Base. Volume I of III. Written 1995. Last reviewed April 11, 2003.

MAFB 2004 MAFB. 2004. *2003 Air Emission Inventory MacDill Air Force Base, Florida*. Prepared by GEOMET Technologies. December 2004.

MAFB 2005a MAFB. 2005. *Draft Integrated Natural Resources Management Plan (INRMP), 2005–2009.*

MAFB 2005b MAFB. 2005. *Final Endangered Species Population Survey, MacDill Air Force Base, Florida.* Prepared by Drs. Melissa Grigione and Ronald J. Sarno (University of South Florida). January 31, 2005.

MAFB 2006a MAFB. 2006. *MacDill 2010 Plan, MacDill General Plan.*

MAFB 2006b MAFB. 2006. *Integrated Cultural Resources Management Plan, MacDill Air Force Base, Fiscal Years 2006–2010.* Prepared by e<sup>2</sup>M.

MAFB 2006c MAFB. 2006. *First Annual Post Active Remediation Monitoring Report Site 52 – Hospital Dorm Underground Storage Tank Area Revision 1.* Prepared for MacDill AFB by Earth Tech, Inc. September 2006.

NMFS 1999 National Marine Fisheries Service (NMFS). 1999. *Final Fishery Management Plan for Atlantic Tunas, Swordfish, and Sharks.*

NMFS 2006 NMFS. 2006. Annual Commercial Landing Statistics. Available online: <[http://www.st.nmfs.gov/pls/webpls/MF\\_ANNUAL\\_LANDINGS.RESULTS](http://www.st.nmfs.gov/pls/webpls/MF_ANNUAL_LANDINGS.RESULTS)>. Accessed April 13, 2006.

NOAA 2003 National Oceanic and Atmospheric Administration (NOAA). 2003. Calculated Soil Moisture Ranking Percentile. Last updated February 23, 2003. Available online: <[http://www.cpc.noaa.gov/products/soilmst/drought\\_composite.html#CSMRP](http://www.cpc.noaa.gov/products/soilmst/drought_composite.html#CSMRP)>. Accessed September 16, 2005.

NRCS 2006a Natural Resources Conservation Services (NRCS). 2006. “Web Soil Survey”. Last updated January 9, 2006. Available online: <<http://websoilsurvey.nrcs.usda.gov/app/>>. Accessed June 13, 2006.

NRCS 2006b NRCS. 2006. *Tampa, Florida Wind Rose.* Available online: <<ftp://ftp.wcc.nrcs.usda.gov/downloads/climate/windrose/florida/tampa/>>. Accessed July 25, 2006.

RE&I 1999 Rust Environment and Infrastructure (RE&I). 1999. *RCRA Facility Investigation Report, SWMU 61, Chlorinated Solvent Plume.* Revision 2. October 1999.

U.S. Census Bureau 2000 U.S. Census Bureau. 2000. “Quick Tables.” Tables DP-1 from Summary File 1 and DP-2 and DP-3 from Summary File 3 for State of Florida; Tampa-St. Petersburg-Clearwater, Florida MSA; and Census Tracts 65, 66, 67, 68.01, 68.02, 69, 70, 71, 72, 73, 244.05, and 245.02. Available online: <<http://factfinder.census.gov>>. Accessed November 17, 2005.

USAF 2006 U.S. Air Force (USAF). 2006. GeoBase Tools Online. Available online: <<https://geobasetools.nwo.usace.army.mil/geobaseonline/>>. Accessed August 2006.

USDA 1978 United States Department of Agriculture (USDA). 1978. *Soil Survey of Hampden County, Massachusetts Central Part.*

USEPA 1997 U.S. Environmental Protection Agency (USEPA). 1997. *Volunteer Stream Monitoring: A Methods Manual*. EPA 841-B-97-003. USEPA, Office of Water. November 1997. Available online: <<http://www.epa.gov/volunteer/stream/stream.pdf>>. Accessed January 31, 2006.

USEPA 1998 USEPA. 1998. *Characterization of Building-Related Construction and Demolition Debris in the United States*. Prepared by Franklin Associates. June 1998.

USEPA 2005 USEPA. 2005. “Section 303(d) List Fact Sheet for Watershed: Tampa Bay and Hillsborough Bay.” Available online: <[http://www.oaspub.epa.gov/tmdl/huc\\_rept.control](http://www.oaspub.epa.gov/tmdl/huc_rept.control)>. Accessed October 27, 2005.

USEPA 2006a USEPA. 2006. *National Ambient Air Quality Standards*. Last updated July 19, 2006. Available online: <<http://www.epa.gov/air/criteria.html>>. Accessed August 15, 2006.

USEPA 2006b USEPA. 2006. “Currently Designated Nonattainment Areas for All Criteria Pollutants.” Green Book. Updated March 2, 2006. Available online: <<http://www.epa.gov/oar/oaqps/greenbk/multipol.html>>. Accessed July 25, 2006.

USEPA 2006c USEPA. 2006. “Emissions Factors and AP 42.” Technology Transfer Network Clearinghouse for Inventories & Emissions Factors. Available online: <<http://www.epa.gov/ttn/chief/ap42/>>. Accessed September 2006.

USFWS 1999 U.S. Fish and Wildlife Service (USFWS). 1999. Listed animal species as published in *Endangered and Threatened Wildlife and Plants 50 CFR 17.11*. December 1999. Available online: <<http://www.fws.gov/endangered/wildlife.html>>. Accessed November 4, 2005.

**APPENDIX A**  
**MILITARY HOUSING PRIVATIZATION INITIATIVE**

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## Appendix A

### Military Housing Privatization Initiative

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<b>Title 10</b>	<b>Armed Forces</b>
<b>Subtitle A</b>	<b>General Military Law</b>
<b>Part IV</b>	<b>Service, Supply, and Procurement</b>
<b>Chapter 169</b>	<b>Military Construction and Military Family Housing</b>
<b>Subchapter IV</b>	<b>Alternative Authority for Acquisition and Improvement of Military Housing</b>

#### **Sec. 2871. Definitions**

In this subchapter:

- (1) The term “ancillary supporting facilities” means facilities related to military housing units, including facilities to provide or support elementary or secondary education, child care centers, day care centers, tot lots, community centers, housing offices, dining facilities, unit offices, and other similar facilities for the support of military housing.
- (2) The term “base closure law” means the following:
  - (A) Section 2687 of this title.
  - (B) Title II of the Defense Authorization Amendments and Base Closure and Realignment Act (Public Law 100-526; 10 U.S.C. 2687 note).
  - (C) The Defense Base Closure and Realignment Act of 1990 (part A of title XXIX of Public Law 101-510; 10 U.S.C. 2687 note).
- (3) The term “construction” means the construction of military housing units and ancillary supporting facilities or the improvement or rehabilitation of existing units or ancillary supporting facilities.
- (4) The term “contract” includes any contract, lease, or other agreement entered into under the authority of this subchapter.
- (5) The term “eligible entity” means any private person, corporation, firm, partnership, company, State or local government, or housing authority of a State or local government.
- (6) The term “Fund” means the Department of Defense Family Housing Improvement Fund or the Department of Defense Military Unaccompanied Housing Improvement Fund established under section 2883(a) of this title.
- (7) The term “military unaccompanied housing” means military housing intended to be occupied by members of the armed forces serving a tour of duty unaccompanied by dependents and transient housing intended to be occupied by members of the armed forces on temporary duty.
- (8) The term “United States” includes the Commonwealth of Puerto Rico.

#### **Sec. 2872. General authority**

In addition to any other authority provided under this chapter for the acquisition or construction of military family housing or military unaccompanied housing, the Secretary concerned may exercise any

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authority or any combination of authorities provided under this subchapter in order to provide for the acquisition or construction by eligible entities of the following:

- (1) Family housing units on or near military installations within the United States and its territories and possessions.
- (2) Military unaccompanied housing units on or near such military installations.

### **Sec. 2872a. Utilities and services**

(a) Authority To Furnish. - The Secretary concerned may furnish utilities and services referred to in subsection (b) in connection with any military housing acquired or constructed pursuant to the exercise of any authority or combination of authorities under this subchapter if the military housing is located on a military installation.

(b) Covered Utilities and Services. - The utilities and services that may be furnished under subsection (a) are the following:

- (1) Electric power.
- (2) Steam.
- (3) Compressed air.
- (4) Water.
- (5) Sewage and garbage disposal.
- (6) Natural gas.
- (7) Pest control.
- (8) Snow and ice removal.
- (9) Mechanical refrigeration.
- (10) Telecommunications service.
- (11) Firefighting and fire protection services.
- (12) Police protection services.

(c) Reimbursement.

- (1) The Secretary concerned shall be reimbursed for any utilities or services furnished under subsection (a).
- (2) The amount of any cash payment received under paragraph (1) shall be credited to the appropriation or working capital account from which the cost of furnishing the utilities or services concerned was paid. Amounts so credited to an appropriation or account shall be merged with funds in such appropriation or account, and shall be available to the same extent, and subject to the same terms and conditions, as such funds.

### **Sec. 2873. Direct loans and loan guarantees**

(a) Direct Loans.

- (1) Subject to subsection (c), the Secretary concerned may make direct loans to an eligible entity in order to provide funds to the eligible entity for the acquisition or construction of housing units that the Secretary determines are suitable for use as military family housing or as military unaccompanied housing.

(2) The Secretary concerned shall establish such terms and conditions with respect to loans made under this subsection as the Secretary considers appropriate to protect the interests of the United States, including the period and frequency for repayment of such loans and the obligations of the obligors on such loans upon default.

(b) Loan Guarantees.

- (1) Subject to subsection (c), the Secretary concerned may guarantee a loan made to an eligible entity if the proceeds of the loan are to be used by the eligible entity to acquire, or construct housing units that the Secretary determines are suitable for use as military family housing or as military unaccompanied housing.
- (2) The amount of a guarantee on a loan that may be provided under paragraph (1) may not exceed the amount equal to the lesser of - (A) the amount equal to 80 percent of the value of the project; or (B) the amount of the outstanding principal of the loan.
- (3) The Secretary concerned shall establish such terms and conditions with respect to guarantees of loans under this subsection as the Secretary considers appropriate to protect the interests of the United States, including the rights and obligations of obligors of such loans and the rights and obligations of the United States with respect to such guarantees.

(c) Limitation on Direct Loan and Guarantee Authority. – Direct loans and loan guarantees may be made under this section only to the extent that appropriations of budget authority to cover their cost (as defined in section 502(5) of the Federal Credit Reform Act of 1990 (2 U.S.C. 661a(5))) are made in advance, or authority is otherwise provided in appropriation Acts. If such appropriation or other authority is provided, there may be established a financing account (as defined in section 502(7) of such Act (2 U.S.C. 661a(7))), which shall be available for the disbursement of direct loans or payment of claims for payment on loan guarantees under this section and for all other cash flows to and from the government as a result of direct loans and guarantees made under this section.

### **Sec. 2874. Leasing of housing**

- (a) Lease Authorized. - The Secretary concerned may enter into contracts for the lease of housing units that the Secretary determines are suitable for use as military family housing or military unaccompanied housing.
- (b) Use of Leased Units. - The Secretary concerned shall utilize housing units leased under this section as military family housing or military unaccompanied housing, as appropriate.
- (c) Lease Terms. - A contract under this section may be for any period that the Secretary concerned determines appropriate and may provide for the owner of the leased property to operate and maintain the property.

### **Sec. 2875. Investments**

- (a) Investments Authorized. - The Secretary concerned may make investments in an eligible entity carrying out projects for the acquisition or construction of housing units suitable for use as military family housing or as military unaccompanied housing.
- (b) Forms of Investment. - An investment under this section may take the form of an acquisition of a limited partnership interest by the United States, a purchase of stock or other equity instruments by the United States, a purchase of bonds or other debt instruments by the United States, or any combination of such forms of investment.

(c) Limitation on Value of Investment.

- (1) The cash amount of an investment under this section in an eligible entity may not exceed an amount equal to 33 1/3 percent of the capital cost (as determined by the Secretary concerned) of the project or projects that the eligible entity proposes to carry out under this section with the investment.
- (2) If the Secretary concerned conveys land or facilities to an eligible entity as all or part of an investment in the eligible entity under this section, the total value of the investment by the Secretary under this section may not exceed an amount equal to 45 percent of the capital cost (as determined by the Secretary) of the project or projects that the eligible entity proposes to carry out under this section with the investment.
- (3) In this subsection, the term "capital cost", with respect to a project for the acquisition or construction of housing, means the total amount of the costs included in the basis of the housing for Federal income tax purposes.

(d) Collateral Incentive Agreements. - The Secretary concerned shall enter into collateral incentive agreements with eligible entities in which the Secretary makes an investment under this section to ensure that a suitable preference will be afforded members of the armed forces and their dependents in the lease or purchase, as the case may be, of a reasonable number of the housing units covered by the investment.

(e) Congressional Notification Required. - Amounts in the Department of Defense Family Housing Improvement Fund or the Department of Defense Military Unaccompanied Housing Improvement Fund may be used to make a cash investment under this section in an eligible entity only after the end of the 30-day period beginning on the date the Secretary of Defense submits written notice of, and justification for, the investment to the appropriate committees of Congress.

**Sec. 2876. Rental guarantees**

The Secretary concerned may enter into agreements with eligible entities that acquire or construct military family housing units or military unaccompanied housing units under this subchapter in order to assure –

- (1) the occupancy of such units at levels specified in the agreements; or
- (2) rental income derived from rental of such units at levels specified in the agreements.

**Sec. 2877. Differential lease payments**

Pursuant to an agreement entered into by the Secretary concerned and a lessor of military family housing or military unaccompanied housing to members of the armed forces, the Secretary may pay the lessor an amount in addition to the rental payments for the housing made by the members as the Secretary determines appropriate to encourage the lessor to make the housing available to members of the armed forces as military family housing or as military unaccompanied housing.

**Sec. 2878. Conveyance or lease of existing property and facilities**

- (a) Conveyance or Lease Authorized. - The Secretary concerned may convey or lease property or facilities (including ancillary supporting facilities) to eligible entities for purposes of using the proceeds of such conveyance or lease to carry out activities under this subchapter.
- (b) Inapplicability to Property at Installation Approved for Closure. - The authority of this section does not apply to property or facilities located on or near a military installation approved for closure under a base closure law.

(c) Terms and Conditions.

- (1) The conveyance or lease of property or facilities under this section shall be for such consideration and upon such terms and conditions as the Secretary concerned considers appropriate for the purposes of this subchapter and to protect the interests of the United States.
- (2) As part or all of the consideration for a conveyance or lease under this section, the purchaser or lessor (as the case may be) shall enter into an agreement with the Secretary to ensure that a suitable preference will be afforded members of the armed forces and their dependents in the lease or sublease of a reasonable number of the housing units covered by the conveyance or lease, as the case may be, or in the lease of other suitable housing units made available by the purchaser or lessee.

(d) Inapplicability of Certain Property Management Laws. – The conveyance or lease of property or facilities under this section shall not be subject to the following provisions of law:

- (1) Section 2667 of this title.
- (2) Subtitle I of title 40 and title III of the Federal Property and Administrative Services Act of 1949 (41 U.S.C. 251 et seq.).
- (3) Section 1302 of title 40.
- (4) Section 501 of the McKinney-Vento Homeless Assistance Act (42 U.S.C. 11411).

**Sec. 2879.**

(Repealed. Public Law 107-314, div. B, title XXVIII, Sec. 2802(c)(1), Dec. 2, 2002, 116 Stat. 2703)

**Sec. 2880. Unit size and type**

(a) Conformity With Similar Housing Units in Locale. – The Secretary concerned shall ensure that the room patterns and floor areas of military family housing units and military unaccompanied housing units acquired or constructed under this subchapter are generally comparable to the room patterns and floor areas of similar housing units in the locality concerned.

(b) Inapplicability of Limitations on Space by Pay Grade.

- (1) Section 2826 of this title shall not apply to military family housing units acquired or constructed under this subchapter.
- (2) The regulations prescribed under section 2856 of this title shall not apply to any military unaccompanied housing unit acquired or constructed under this subchapter unless the unit is located on a military installation.

**Sec. 2881. Ancillary supporting facilities**

(a) Authority To Acquire or Construct. - Any project for the acquisition or construction of military family housing units or military unaccompanied housing units under this subchapter may include the acquisition or construction of ancillary supporting facilities for the housing units concerned.

(b) Restriction. - A project referred to in subsection (a) may not include the acquisition or construction of an ancillary supporting facility if, as determined by the Secretary concerned, the facility is to be used for providing merchandise or services in direct competition with -

- (1) the Army and Air Force Exchange Service;
- (2) the Navy Exchange Service Command;

- (3) a Marine Corps exchange;
- (4) the Defense Commissary Agency; or
- (5) any nonappropriated fund activity of the Department of Defense for the morale, welfare, and recreation of members of the armed forces.

**Sec. 2881a. Pilot projects for acquisition or construction of military unaccompanied housing**

- (a) Pilot Projects Authorized. - The Secretary of the Navy may carry out not more than three pilot projects under the authority of this section or another provision of this subchapter to use the private sector for the acquisition or construction of military unaccompanied housing in the United States, including any territory or possession of the United States.
- (b) Treatment of Housing; Assignment of Members. - The Secretary of the Navy may assign members of the armed forces without dependents to housing units acquired or constructed under the pilot projects, and such housing units shall be considered as quarters of the United States or a housing facility under the jurisdiction of the Secretary for purposes of section 403 of title 37.
- (c) Basic Allowance for Housing.
  - (1) The Secretary of Defense may prescribe and, under section 403(n) of title 37, pay for members of the armed forces without dependents in privatized housing acquired or constructed under the pilot projects higher rates of partial basic allowance for housing than the rates authorized under paragraph (2) of such section.
  - (2) The partial basic allowance for housing paid for a member at a higher rate under this subsection may be paid directly to the private sector source of the housing to whom the member is obligated to pay rent or other charge for residing in such housing if the private sector source credits the amount so paid against the amount owed by the member for the rent or other charge.
- (d) Funding.
  - (1) The Secretary of the Navy shall use the Department of Defense Military Unaccompanied Housing Improvement Fund to carry out activities under the pilot projects.
  - (2) Subject to 90 days prior notification to the appropriate committees of Congress, such additional amounts as the Secretary of Defense considers necessary may be transferred to the Department of Defense Military Unaccompanied Housing Improvement Fund from amounts appropriated for construction of military unaccompanied housing in military construction accounts. The amounts so transferred shall be merged with and be available for the same purposes and for the same period of time as amounts appropriated directly to the Fund.
- (e) Reports.
  - (1) The Secretary of the Navy shall transmit to the appropriate committees of Congress a report describing –
    - (A) each contract for the acquisition of military unaccompanied housing that the Secretary proposes to solicit under the pilot projects;
    - (B) each conveyance or lease proposed under section 2878 of this title in furtherance of the pilot projects; and
    - (C) the proposed partial basic allowance for housing rates for each contract as they vary by grade of the member and how they compare to basic allowance for housing rates for other contracts written under the authority of the pilot programs.

- (2) The report shall describe the proposed contract, conveyance, or lease and the intended method of participation of the United States in the contract, conveyance, or lease and provide a justification of such method of participation. The report shall be submitted not later than 90 days before the date on which the Secretary issues the contract solicitation or offers the conveyance or lease.
- (f) Expiration. - Notwithstanding section 2885 of this title, the authority of the Secretary of the Navy to enter into a contract under the pilot programs shall expire September 30, 2007.

### **Sec. 2882. Assignment of members of the armed forces to housing units**

- (a) In General. - The Secretary concerned may assign members of the armed forces to housing units acquired or constructed under this subchapter.
- (b) Effect of Certain Assignments on Entitlement to Housing Allowances.
  - (1) Except as provided in paragraph (2), housing referred to in subsection (a) shall be considered as quarters of the United States or a housing facility under the jurisdiction of a uniformed service for purposes of section 403 of title 37.
  - (2) A member of the armed forces who is assigned in accordance with subsection (a) to a housing unit not owned or leased by the United States shall be entitled to a basic allowance for housing under section 403 of title 37.
- (c) Lease Payments Through Pay Allotments. - The Secretary concerned may require members of the armed forces who lease housing in housing units acquired or constructed under this subchapter to make lease payments for such housing pursuant to allotments of the pay of such members under section 701 of title 37.

### **Sec. 2883. Department of Defense Housing Funds**

- (a) Establishment. - There are hereby established on the books of the Treasury the following accounts:
  - (1) The Department of Defense Family Housing Improvement Fund.
  - (2) The Department of Defense Military Unaccompanied Housing Improvement Fund.
- (b) Commingling of Funds Prohibited.
  - (1) The Secretary of Defense shall administer each Fund separately.
  - (2) Amounts in the Department of Defense Family Housing Improvement Fund may be used only to carry out activities under this subchapter with respect to military family housing.
  - (3) Amounts in the Department of Defense Military Unaccompanied Housing Improvement Fund may be used only to carry out activities under this subchapter with respect to military unaccompanied housing.
- (c) Credits to Funds.
  - (1) There shall be credited to the Department of Defense Family Housing Improvement Fund the following:
    - (A) Amounts authorized for and appropriated to that Fund.
    - (B) Subject to subsection (f), any amounts that the Secretary of Defense transfers, in such amounts as provided in appropriation Acts, to that Fund from amounts authorized and appropriated to the Department of Defense for the acquisition or construction of military family housing.

- (C) Proceeds from the conveyance or lease of property or facilities under section 2878 of this title for the purpose of carrying out activities under this subchapter with respect to military family housing.
- (D) Income derived from any activities under this subchapter with respect to military family housing, including interest on loans made under section 2873 of this title, income and gains realized from investments under section 2875 of this title, and any return of capital invested as part of such investments.
- (E) Any amounts that the Secretary of the Navy transfers to that Fund pursuant to section 2814(i)(3) of this title, subject to the restrictions on the use of the transferred amounts specified in that section.

(2) There shall be credited to the Department of Defense Military Unaccompanied Housing Improvement Fund the following:

- (A) Amounts authorized for and appropriated to that Fund.
- (B) Subject to subsection (f), any amounts that the Secretary of Defense transfers, in such amounts as provided in appropriation Acts, to that Fund from amounts authorized and appropriated to the Department of Defense for the acquisition or construction of military unaccompanied housing.
- (C) Proceeds from the conveyance or lease of property or facilities under section 2878 of this title for the purpose of carrying out activities under this subchapter with respect to military unaccompanied housing.
- (D) Income derived from any activities under this subchapter with respect to military unaccompanied housing, including interest on loans made under section 2873 of this title, income and gains realized from investments under section 2875 of this title, and any return of capital invested as part of such investments.
- (E) Any amounts that the Secretary of the Navy transfers to that Fund pursuant to section 2814(i)(3) of this title, subject to the restrictions on the use of the transferred amounts specified in that section.

(d) Use of Amounts in Funds.

- (1) In such amounts as provided in appropriation Acts and except as provided in subsection (e), the Secretary of Defense may use amounts in the Department of Defense Family Housing Improvement Fund to carry out activities under this subchapter with respect to military family housing, including activities required in connection with the planning, execution, and administration of contracts entered into under the authority of this subchapter. The Secretary may also use for expenses of activities required in connection with the planning, execution, and administration of such contracts funds that are otherwise available to the Department of Defense for such types of expenses.
- (2) In such amounts as provided in appropriation Acts and except as provided in subsection (e), the Secretary of Defense may use amounts in the Department of Defense Military Unaccompanied Housing Improvement Fund to carry out activities under this subchapter with respect to military unaccompanied housing, including activities required in connection with the planning, execution, and administration of contracts entered into under the authority of this subchapter. The Secretary may also use for expenses of activities required in connection with the planning, execution, and administration of such contracts funds that are otherwise available to the Department of Defense for such types of expenses.

(3) Amounts made available under this subsection shall remain available until expended. The Secretary of Defense may transfer amounts made available under this subsection to the Secretaries of the military departments to permit such Secretaries to carry out the activities for which such amounts may be used.

(e) Limitation on Obligations. - The Secretary may not incur an obligation under a contract or other agreement entered into under this subchapter in excess of the unobligated balance, at the time the contract is entered into, of the Fund required to be used to satisfy the obligation.

(f) Notification Required for Transfers. - A transfer of appropriated amounts to a Fund under paragraph (1)(B) or (2)(B) of subsection (c) may be made only after the end of the 30-day period beginning on the date the Secretary of Defense submits written notice of, and justification for, the transfer to the appropriate committees of Congress.

(g) Limitation on Amount of Budget Authority. - The total value in budget authority of all contracts and investments undertaken using the authorities provided in this subchapter shall not exceed (1) \$850,000,000 for the acquisition or construction of military family housing; and (2) \$150,000,000 for the acquisition or construction of military unaccompanied housing.

**Sec. 2883a. Funds for housing allowances of members of the armed forces assigned to certain military family housing units**

(a) Authority to Transfer Funds To Cover Housing Allowances. - During the fiscal year in which a contract is awarded for the acquisition or construction of military family housing units under this subchapter that are not to be owned by the United States, the Secretary of Defense may transfer the amount determined under subsection (b) with respect to such housing from appropriations available for support of military housing for the armed force concerned for that fiscal year to appropriations available for pay and allowances of military personnel of that same armed force for that same fiscal year.

(b) Amount Transferred. - The total amount authorized to be transferred under subsection (a) in connection with a contract under this subchapter may not exceed an amount equal to any additional amounts payable during the fiscal year in which the contract is awarded to members of the armed forces assigned to the acquired or constructed housing units as basic allowance for housing under section 403 of title 37 that would not otherwise have been payable to such members if not for assignment to such housing units.

(c) Transfers Subject to Appropriations. - The transfer of funds under the authority of subsection (a) is limited to such amounts as may be provided in advance in appropriations Acts.

**Sec. 2884. Reports**

(a) Project Reports.

(1) The Secretary of Defense shall transmit to the appropriate committees of Congress a report describing -

(A) each contract for the acquisition or construction of family housing units or unaccompanied housing units that the Secretary proposes to solicit under this subchapter; and

(B) each conveyance or lease proposed under section 2878 of this title.

(2) The report shall describe the proposed contract, conveyance, or lease and the intended method of participation of the United States in the contract, conveyance, or lease and provide a justification of such method of participation. The report shall be submitted not later than 30 days before the date on which the Secretary issues the contract solicitation or offers the conveyance or lease.

(b) Annual Reports. - The Secretary of Defense shall include each year in the materials that the Secretary submits to Congress in support of the budget submitted by the President pursuant to section 1105 of title 31 the following:

- (1) A report on the expenditures and receipts during the preceding fiscal year covering the Funds established under section 2883 of this title.
- (2) A methodology for evaluating the extent and effectiveness of the use of the authorities under this subchapter during such preceding fiscal year.
- (3) A description of the objectives of the Department of Defense for providing military family housing and military unaccompanied housing for members of the armed forces.

**Sec. 2885. Expiration of authority**

The authority to enter into a contract under this subchapter shall expire on December 31, 2012.

## **APPENDIX B**

### **APPLICABLE LAWS, REGULATIONS, POLICIES, AND PLANNING CRITERIA**

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## Appendix B

### Applicable Laws, Regulations, Policies, and Planning Criteria

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When considering the affected environment, the various physical, biological, economic, and social environmental factors must be considered. In addition to the National Environmental Policy Act (NEPA), there are other environmental laws and Executive Orders (EOs) to be considered when preparing environmental analyses. These laws are summarized below.

#### **Noise**

The Air Installation Compatible Use Zone (AICUZ) Program, (Air Force Instruction [AFI] 32-7063), provides guidance to air bases and local communities in planning land uses compatible with airfield operations. The AICUZ program describes existing aircraft noise and flight safety zones on and near U.S. Air Force (USAF) installations.

#### **Land Use**

Land use planning in the USAF is guided by *Land Use Planning Bulletin, Base Comprehensive Planning* (HQ USAF/LEEVX, August 1, 1986). This document provides for the use of 12 basic land use types found on an Air Force installation. In addition, land use guidelines established by the U.S. Department of Housing and Urban Development (HUD) and based on findings of the Federal Interagency Committee on Noise (FICON) are used to recommend acceptable levels of noise exposure for land use.

#### **Air Quality**

The Clean Air Act (CAA) of 1970, and Amendments of 1977 and 1990, recognizes that increases in air pollution result in danger to public health and welfare. To protect and enhance the quality of the Nation's air resources, the CAA authorizes the U.S. Environmental Protection Agency (USEPA) to set six National Ambient Air Quality Standards (NAAQS) which regulate carbon monoxide, lead, nitrogen dioxide, ozone, sulfur dioxide, and particulate matter pollution emissions. The CAA seeks to reduce or eliminate the creation of pollutants at their source, and designates this responsibility to state and local governments. States are directed to utilize financial and technical assistance as well as leadership from the Federal government to develop implementation plans to achieve NAAQS. Geographic areas are officially designated by USEPA as being in attainment or nonattainment to pollutants in relation to their compliance with NAAQS. Geographic regions established for air quality planning purposes are designated as Air Quality Control Regions (AQCRs). Pollutant concentration levels are measured at designated monitoring stations within the AQCR. An area with insufficient monitoring data is designated as unclassifiable. Section 309 of the CAA authorizes USEPA to review and comment on impact statements prepared by other agencies.

An agency should consider what effect an action could have on NAAQS due to short-term increases in air pollution during construction as well as long-term increases resulting from changes in traffic patterns. For actions in attainment areas, a Federal agency may also be subject to USEPA's Prevention of Significant Deterioration (PSD) regulations. These regulations apply to new major stationary sources and modifications to such sources. Although few agency facilities will actually emit pollutants, increases in pollution can result from a change in traffic patterns or volume. Section 118 of the CAA waives Federal immunity from complying with the CAA and states all Federal agencies will comply with all Federal- and state-approved requirements.

#### **Safety**

AFI 91-202, *USAF Mishap Prevention Program*, implements Air Force Policy Directive (AFPD) 91-2, *Safety Programs*. It establishes mishap prevention program requirements (including the Bird/Wildlife

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Aircraft Strike Hazard [BASH] Program), assigns responsibilities for program elements, and contains program management information. This instruction applies to all USAF personnel.

AFI 91-301, *Air Force Occupational and Environmental Safety, Fire Protection, and Health (AFOSH) Program*, implements AFPD 91-3, *Occupational Safety and Health*, by outlining the AFOSH Program. The purpose of the AFOSH Program is to minimize loss of USAF resources and to protect USAF personnel from occupational deaths, injuries, or illnesses by managing risks. In conjunction with the USAF Mishap Prevention Program, these standards ensure all USAF workplaces meet Federal safety and health requirements. This instruction applies to all USAF activities.

## **Water Resources**

The Clean Water Act (CWA) of 1977 is an amendment to the Federal Water Pollution Control Act of 1972, is administered by USEPA, and sets the basic structure for regulating discharges of pollutants into U.S. waters. The CWA requires USEPA to establish water quality standards for specified contaminants in surface waters and forbids the discharge of pollutants from a point source into navigable waters without a National Pollutant Discharge Elimination System (NPDES) permit. NPDES permits are issued by USEPA or the appropriate state if it has assumed responsibility. Section 404 of the CWA establishes a Federal program to regulate the discharge of dredge and fill material into waters of the United States. Section 404 permits are issued by the U.S. Army Corps of Engineers (USACE). Waters of the United States include interstate and intrastate lakes, rivers, streams, and wetlands that are used for commerce, recreation, industry, sources of fish, and other purposes. The objective of the CWA is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. Each agency should consider the impact on water quality from actions such as the discharge of dredge or fill material into U.S. waters from construction, or the discharge of pollutants as a result of facility occupation.

Section 303(d) of the CWA requires states and USEPA to identify waters not meeting state water-quality standards and to develop Total Maximum Daily Loads (TMDLs). A TMDL is the maximum amount of a pollutant that a waterbody can receive and still be in compliance with state water-quality standards. After determining TMDLs for impaired waters, states are required to identify all point and nonpoint sources of pollution in a watershed that are contributing to the impairment and to develop an implementation plan that will allocate reductions to each source in order to meet the state standards. The TMDL program is currently the Nation's most comprehensive attempt to restore and improve water quality. The TMDL program does not explicitly require the protection of riparian areas. However, implementation of the TMDL typically calls for restoration of riparian areas as one of the required management measures for achieving reductions in nonpoint source pollutant loadings.

The Coastal Zone Management Act (CZMA) of 1972 declares a national policy to preserve, protect and develop, and, where possible, restore or enhance the resources of the Nation's coastal zone. The coastal zone refers to the coastal waters and the adjacent shorelines including islands, transitional and intertidal areas, salt marshes, wetlands, and beaches, and includes the Great Lakes. The CZMA encourages states to exercise their full authority over the coastal zone, through the development of land and water use programs in cooperation with Federal and local governments. States may apply for grants to help develop and implement management programs to achieve wise use of the land and water resources of the coastal zone. Development projects affecting land or water use or natural resources of a coastal zone, must ensure the project is, to the maximum extent practicable, consistent with the state's coastal zone management program.

The Safe Drinking Water Act (SDWA) of 1974 establishes a Federal program to monitor and increase the safety of all commercially and publicly supplied drinking water. Congress amended the SDWA in 1986, mandating dramatic changes in nationwide safeguards for drinking water and establishing new Federal enforcement responsibility on the part of USEPA. The 1986 amendments to the SDWA require the USEPA to establish Maximum Contaminant Levels (MCLs), Maximum Contaminant Level Goals (MCLGs), and Best Available Technology (BAT) treatment techniques for organic, inorganic,

radioactive, and microbial contaminants; and turbidity. MCLGs are maximum concentrations below which no negative human health effects are known to exist. The 1996 amendments set current Federal MCLs, MCLGs, and BATs for organic, inorganic, microbiological, and radiological contaminants in public drinking water supplies.

The Wild and Scenic Rivers Act of 1968 provides for a wild and scenic river system by recognizing the remarkable values of specific rivers of the Nation. These selected rivers and their immediate environment are preserved in a free-flowing condition, without dams or other construction. The policy not only protects the water quality of the selected rivers but also provides for the enjoyment of present and future generations. Any river in a free-flowing condition is eligible for inclusion, and can be authorized as such by an Act of Congress, an act of state legislature, or by the Secretary of Interior upon the recommendation of the governor of the state(s) through which the river flows.

EO 11988, *Floodplain Management* (May 24, 1977) directs agencies to consider alternatives to avoid adverse effects and incompatible development in floodplains. An agency may locate a facility in a floodplain if the head of the agency finds there is no practicable alternative. If it is found there is no practicable alternative, the agency must minimize potential harm to the floodplain, and circulate a notice explaining why the action is to be located in the floodplain prior to taking action. Finally, new construction in a floodplain must apply accepted floodproofing and flood protection to include elevating structures above the base flood level rather than filling in land.

### **Biological Resources**

The Endangered Species Act (ESA) of 1973 establishes a Federal program to conserve, protect, and restore threatened and endangered plants and animals and their habitats. The ESA specifically charges Federal agencies with the responsibility of using their authority to conserve threatened and endangered species. All Federal agencies must ensure any action they authorize, fund, or carry out is not likely to jeopardize the continued existence of an endangered or threatened species or result in the destruction of critical habitat for these species, unless the agency has been granted an exemption. The Secretary of the Interior, using the best available scientific data, determines which species are officially endangered or threatened, and the U.S. Fish and Wildlife Service (USFWS) maintains the list. A list of Federal endangered species can be obtained from the Endangered Species Division, USFWS (703-358-2171). States might also have their own lists of threatened and endangered species which can be obtained by calling the appropriate State Fish and Wildlife office. Some species, such as the bald eagle, also have laws specifically for their protection (e.g., Bald Eagle Protection Act).

The Migratory Bird Treaty Act (MBTA) of 1918, as amended, implements treaties and conventions between the United States, Canada, Japan, Mexico, and the former Soviet Union for the protection of migratory birds. Unless otherwise permitted by regulations, the MBTA makes it unlawful to pursue, hunt, take, capture, or kill; attempt to take, capture or kill; possess, offer to or sell, barter, purchase, deliver, or cause to be shipped, exported, imported, transported, carried, or received any migratory bird, part, nest, egg, or product, manufactured or not. The MBTA also makes it unlawful to ship, transport or carry from one state, territory or district to another, or through a foreign country, any bird, part, nest, or egg that was captured, killed, taken, shipped, transported, or carried contrary to the laws from where it was obtained; and import from Canada any bird, part, nest, or egg obtained contrary to the laws of the province from which it was obtained. The U.S. Department of the Interior has authority to arrest, with or without a warrant, a person violating the MBTA.

EO 11514, *Protection and Enhancement of Environmental Quality* (March 5, 1970) states that the President, with assistance from the Council on Environmental Quality (CEQ), will lead a national effort to provide leadership in protecting and enhancing the environment for the purpose of sustaining and enriching human life. Federal agencies are directed to meet national environmental goals through their policies, programs, and plans. Agencies should also continually monitor and evaluate their activities to protect and enhance the quality of the environment. Consistent with NEPA, agencies are directed to share

information about existing or potential environmental problems with all interested parties, including the public, in order to obtain their views.

EO 11990, *Protection of Wetlands* (May 24, 1977) directs agencies to consider alternatives to avoid adverse effects and incompatible development in wetlands. Federal agencies are to avoid new construction in wetlands, unless the agency finds there is no practicable alternative to construction in the wetland, and the proposed construction incorporates all possible measures to limit harm to the wetland. Agencies should use economic and environmental data, agency mission statements, and any other pertinent information when deciding whether or not to build in wetlands. EO 11990 directs each agency to provide for early public review of plans for construction in wetlands.

EO 13186, *Conservation of Migratory Birds* (January 10, 2001) creates a more comprehensive strategy for the conservation of migratory birds by the Federal government. EO 13186 provides a specific framework for the Federal government's compliance with its treaty obligations to Canada, Mexico, Russia, and Japan. EO 13186 provides broad guidelines on conservation responsibilities and requires the development of more detailed guidance in a Memorandum of Understanding (MOU). EO 13186 will be coordinated and implemented by the USFWS. The MOU will outline how Federal agencies will promote conservation of migratory birds. EO 13186 requires the support of various conservation planning efforts already in progress; incorporation of bird conservation considerations into agency planning, including NEPA analyses; and reporting annually on the level of take of migratory birds.

## **Cultural Resources**

The American Indian Religious Freedom Act of 1978 and Amendments of 1994 recognize that freedom of religion for all people is an inherent right, and traditional American Indian religions are an indispensable and irreplaceable part of Indian life. It also recognized the lack of Federal policy on this issue and made it the policy of the United States to protect and preserve the inherent right of religious freedom for Native Americans. The 1994 Amendments provide clear legal protection for the use of peyote cactus as a religious sacrament. Federal agencies are responsible for evaluating their actions and policies to determine if changes should be made to protect and preserve the religious cultural rights and practices of Native Americans. These evaluations must be made in consultation with native traditional religious leaders.

The Archaeological Resource Protection Act (ARPA) of 1979 protects archaeological resources on public and American Indian lands. It provides felony-level penalties for the unauthorized excavation, removal, damage, alteration, or defacement of any archaeological resource, defined as material remains of past human life or activities which are at least 100 years old. Before archaeological resources are excavated or removed from public lands, the Federal land manager must issue a permit detailing the time, scope, location, and specific purpose of the proposed work. ARPA also fosters the exchange of information about archaeological resources between governmental agencies, the professional archaeological community, and private individuals. ARPA is implemented by regulations found in 43 CFR Part 7.

The National Historic Preservation Act (NHPA) of 1966 sets forth national policy to identify and preserve properties of state, local, and national significance. The NHPA establishes the Advisory Council on Historic Preservation (AHP), State Historic Preservation Officers (SHPOs), and the National Register of Historic Places (NRHP). AHP advises the President, Congress, and Federal agencies on historic preservation issues. Section 106 of the NHPA directs Federal agencies to take into account effects of their undertakings (actions and authorizations) on properties included in or eligible for the NRHP. Section 110 sets inventory, nomination, protection, and preservation responsibilities for federally owned cultural properties. Section 106 of the act is implemented by regulations of the AHP, 36 CFR Part 800. Agencies should coordinate studies and documents prepared under Section 106 with NEPA where appropriate. However, NEPA and NHPA are separate statutes and compliance with one does not constitute compliance with the other. For example, actions which qualify for a categorical exclusion under NEPA might still require Section 106 review under NHPA. It is the responsibility of the agency

official to identify properties in the area of potential effects, and whether they are included or eligible for inclusion in the NRHP. Section 110 of the NHPA requires Federal agencies to identify, evaluate, and nominate historic property under agency control to the NRHP.

The Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 establishes rights of American Indian tribes to claim ownership of certain “cultural items,” defined as Native American human remains, funerary objects, sacred objects, and objects of cultural patrimony, held or controlled by Federal agencies. Cultural items discovered on Federal or tribal lands are, in order of primacy, the property of lineal descendants, if these can be determined, and then the tribe owning the land where the items were discovered or the tribe with the closest cultural affiliation with the items. Discoveries of cultural items on Federal or tribal land must be reported to the appropriate American Indian tribe and the Federal agency with jurisdiction over the land. If the discovery is made as a result of a land use, activity in the area must stop and the items must be protected pending the outcome of consultation with the affiliated tribe.

EO 11593, *Protection and Enhancement of the Cultural Environment* (May 13, 1971) directs the Federal government to provide leadership in the preservation, restoration, and maintenance of the historic and cultural environment. Federal agencies are required to locate and evaluate all Federal sites under their jurisdiction or control which may qualify for listing on the NRHP. Agencies must allow the ACHP to comment on the alteration, demolition, sale, or transfer of property which is likely to meet the criteria for listing as determined by the Secretary of the Interior in consultation with the SHPO. Agencies must also initiate procedures to maintain federally owned sites listed on the NRHP.

EO 13007, *Indian Sacred Sites* (May 24, 1996) provides that agencies managing Federal lands, to the extent practicable, permitted by law, and not inconsistent with agency functions, shall accommodate American Indian religious practitioners’ access to and ceremonial use of American Indian sacred sites, shall avoid adversely affecting the physical integrity of such sites, and shall maintain the confidentiality of such sites. Federal agencies are responsible for informing tribes of proposed actions that could restrict future access to or ceremonial use of, or adversely affect the physical integrity of, sacred sites.

EO 13287, *Preserve America* (March 3, 2003) orders Federal agencies to take a leadership role in protection, enhancement, and contemporary use of historic properties owned by the Federal government, and promote intergovernmental cooperation and partnerships for preservation and use of historic properties. EO 13287 established new accountability for agencies with respect to inventories and stewardship.

## **Socioeconomics and Environmental Justice**

EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (February 11, 1994) directs Federal agencies to make achieving environmental justice part of their mission. Agencies must identify and address the adverse human health or environmental effects that its activities have on minority and low-income populations, and develop agency-wide environmental justice strategies. The strategy must list “programs, policies, planning and public participation processes, enforcement, and/or rulemakings related to human health or the environment that should be revised to promote enforcement of all health and environmental statutes in areas with minority populations and low-income populations, ensure greater public participation, improve research and data collection relating to the health of and environment of minority populations and low-income populations, and identify differential patterns of consumption of natural resources among minority populations and low-income populations.” A copy of the strategy and progress reports must be provided to the Federal Working Group on Environmental Justice. Responsibility for compliance with EO 12898 is with each Federal agency.

## **Hazardous Materials and Waste**

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 authorizes USEPA to respond to spills and other releases of hazardous substances to the environment, and

authorizes the National Oil and Hazardous Substances Pollution Contingency Plan. CERCLA also provides a Federal “Superfund” to respond to emergencies immediately. Although the “Superfund” provides funds for cleanup of sites where potentially responsible parties cannot be identified, USEPA is authorized to recover funds through damages collected from responsible parties. This funding process places the economic burden for cleanup on polluters.

The Pollution Prevention Act (PPA) of 1990 encourages manufacturers to avoid the generation of pollution by modifying equipment and processes, redesigning products, substituting raw materials, and making improvements in management techniques, training, and inventory control. Consistent with pollution prevention principles, EO 13423, *Strengthening Federal Environmental, Energy, and Transportation Management* (January 24, 2007 [revoking EO 13148]) sets a goal for all Federal agencies that promotes environmental practices, including acquisition of biobased, environmentally preferable, energy-efficient, water-efficient, and recycled-content products, and use of paper of at least 30 percent post-consumer fiber content. In addition, EO 13423 sets a goal that requires Federal agencies to ensure that they reduce the quantity of toxic and hazardous chemicals and materials acquired, used, or disposed of, increase diversion of solid waste as appropriate, and maintain cost effective waste prevention and recycling programs in their facilities. Additionally, in *Federal Register* Volume 58 Number 18 (January 29, 1993), CEQ provides guidance to Federal agencies on how to “incorporate pollution prevention principles, techniques, and mechanisms into their planning and decision making processes and to evaluate and report those efforts, as appropriate, in documents pursuant to NEPA.”

The Resource Conservation and Recovery Act (RCRA) of 1976 is an amendment to the Solid Waste Disposal Act. RCRA authorizes USEPA to provide for “cradle-to-grave” management of hazardous waste and sets a framework for the management of nonhazardous municipal solid waste. Under RCRA, hazardous waste is controlled from generation to disposal through tracking and permitting systems, and restrictions and controls on the placement of waste on or into the land. Under RCRA, a waste is defined as hazardous if it is ignitable, corrosive, reactive, toxic, or listed by USEPA as being hazardous. With the Hazardous and Solid Waste Amendments (HSWA) of 1984, Congress targeted stricter standards for waste disposal and encouraged pollution prevention by prohibiting the land disposal of particular wastes. The HSWA amendments strengthen control of both hazardous and nonhazardous waste and emphasize the prevention of pollution of groundwater.

The Superfund Amendments and Reauthorization Act (SARA) of 1986 mandates strong clean-up standards and authorizes the USEPA to use a variety of incentives to encourage settlements. Title III of SARA authorizes the Emergency Planning and Community Right to Know Act (EPCRA), which requires facility operators with “hazardous substances” or “extremely hazardous substances” to prepare comprehensive emergency plans and to report accidental releases. If a Federal agency acquires a contaminated site, it can be held liable for clean-up as the property owner/operator. A Federal agency can also incur liability if it leases a property, as the courts have found lessees liable as “owners.” However, if the agency exercises due diligence by conducting a Phase I Environmental Site Assessment, it can claim the “innocent purchaser” defense under CERCLA. According to Title 42 U.S. Code (U.S.C.) 9601(35), the current owner/operator must show it undertook “all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice” before buying the property to use this defense.

The Toxic Substance Control Act (TSCA) of 1976 consists of four titles. Title I established requirements and authorities to identify and control toxic chemical hazards to human health and the environment. TSCA authorized USEPA to gather information on chemical risks, require companies to test chemicals for toxic effects, and regulate chemicals with unreasonable risk. TSCA also singled out polychlorinated bi-phenyls (PCBs) for regulation, and, as a result, PCBs are being phased out. PCBs are persistent when released into the environment and accumulate in the tissues of living organisms. They have been shown to cause adverse health effects on laboratory animals and can cause adverse health effects in humans. TSCA and its regulations govern the manufacture, processing, distribution, use, marking, storage,

disposal, clean-up, and release reporting requirements for numerous chemicals like PCBs. TSCA Title II provides statutory framework for “Asbestos Hazard Emergency Response,” which applies only to schools. TSCA Title III, “Indoor Radon Abatement,” states indoor air in buildings of the United States should be as free of radon as the outside ambient air. Federal agencies are required to conduct studies on the extent of radon contamination in buildings they own. TSCA Title IV, “Lead Exposure Reduction,” directs Federal agencies to “conduct a comprehensive program to promote safe, effective, and affordable monitoring, detection, and abatement of lead-based paint and other lead exposure hazards.” Further, any Federal agency having jurisdiction over a property or facility must comply with all Federal, state, interstate, and local requirements concerning lead-based paint.

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**APPENDIX C**

**INTERAGENCY COORDINATION AND PUBLIC REVIEW**

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DEPARTMENT OF THE AIR FORCE  
HEADQUARTERS AIR MOBILITY COMMAND

MEMORANDUM FOR SEE DISTRIBUTION

28 JUN 2007

FROM: HQ AMC/A7P  
507 Symington Drive  
Scott AFB IL 62225-5022

SUBJECT: Description of Proposed Action and Alternatives (DOPAA) for Military Privatization Initiative at MacDill Air Force Base (AFB), Florida

1. The Air Mobility Command is preparing an Environmental Assessment (EA) of the Privatization of Military Family Housing at MacDill AFB. The Proposed Action is to lease the military family housing units at MacDill AFB to a private developer so that through construction, demolition, and renovation, the end-state total would be 571 housing units. The DOPAA is included with this correspondence.
2. The environmental impact analysis process for the Proposed Action and the No Action Alternative is being conducted by the Air Mobility Command in accordance with the Council on Environmental Quality guidelines pursuant to the requirements of the National Environmental Policy Act of 1969. In accordance with Executive Order 12372, *Intergovernmental Review of Federal Programs*, we request your participation by reviewing the attached DOPAA and solicit your comments concerning the proposal and any potential environmental consequences. Also enclosed is the distribution list of those Federal, state, and local agencies that have been contacted. If there are any additional agencies that you feel should review and comment on the proposal, please include them in your distribution of this letter and the attached materials.
3. Please provide any comments or information directly to HQ AMC/A7P, 507 Symington Drive, Scott AFB, IL 62225-5022 within 30 calendar days upon receipt of this notification.
4. If members of your staff have any questions, our point of contact is Mr. Mark Fetzer, HQ AMC/A7PC, 618-229-0843, or e-mail to [mark.fetzer.ctr@scott.af.mil](mailto:mark.fetzer.ctr@scott.af.mil).

*Anthony J. DiSimeone Jr.*  
MICHAEL W. HUTCHISON, Colonel, USAF  
Chief, Plans and Programs Division  
Directorate of Installations & Mission Support

Attachment:  
DOPAA

DISTRIBUTION: (listed on next page)

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**Environmental Assessment of Privatization of Military Family Housing,  
MacDill Air Force Base, Florida**

**Interagency and Intergovernmental Coordination for Environmental Planning List**

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U.S. Fish and Wildlife Service  
Attn: Linda Smith  
9549 Koger Blvd.  
Suite 111  
St. Petersburg, FL 33702

U.S. Environmental Protection Agency, Region 4  
Attn: Heinz Mueller, Environmental Review  
Coordinator  
Sam Nunn Atlanta Federal Center  
61 Forsyth Street  
Atlanta, GA 30303

Advisory Council on Historic Preservation  
Attn: Don Klima, Director of Federal Agency  
Programs  
Old Post Office Building  
1100 Pennsylvania Avenue NW, Suite 803  
Washington, DC 20004

U.S. Army Corps of Engineers  
Mobile District  
P.O. Box 6230  
MacDill AFB, FL 33608-6230

National Marine Fisheries Service  
Attn: David Dale  
263 13th Avenue South  
St. Petersburg, FL 33701

Division of Historical Resources/State Historic  
Preservation Officer  
Compliance Review Section  
Attn: Laura Kammerer, Deputy SHPO  
500 South Bronough Street  
Tallahassee, FL 32399-0250

Florida Coastal Management Program  
Department of Environmental Protection  
Attn: Jasmine Ruffington  
3900 Commonwealth Blvd., MS 47  
Tallahassee, FL 32399-3000

Florida State Clearinghouse  
Department of Environmental Protection  
Attn: Lauren Milligan  
3900 Commonwealth Blvd., MS 47  
Tallahassee, FL 32399-3000

Hillsborough County Office of Planning &  
Infrastructure  
Attn: Dr. Kenneth C. Griffin, PE, Assistant  
County Administrator  
601 E. Kennedy Blvd, County Center, 26th  
Floor  
Tampa, FL 33602

Hillsborough County Planning & Growth  
Management  
Certified Local Government Program  
Attn: Ms. Elaine Lund  
P. O. Box 1110  
Tampa, FL 33601-1110

Hillsborough County Public Schools  
Attn: MaryEllen Elia, Superintendent  
901 E. Kennedy Blvd.  
Tampa, FL 33601

City Of Tampa, Mayor's Office  
306 E Jackson St.  
Tampa, FL 33602

Tampa Historical Society Association  
245 Hyde Park Avenue  
Tampa, FL 33609

Tampa Bay History Center  
225 South Franklin Street  
Tampa, FL 33600

St. Petersburg Historical Society  
335 Second Avenue NE  
St. Petersburg, FL 33701

Military Officers Association of America, Inc.,  
Tampa Chapter  
P.O. Box 6383  
MacDill AFB, Florida 33608-0383

Tampa Preservation, Inc.  
P.O. Box 18061  
Tampa, FL 33679-5437

Tampa Architectural Review Commission  
Certified Local Government Program  
Attn: Del Acosta  
306 East Jackson Street, 3 North  
Tampa, FL 33602

Florida Trust for Historic Preservation  
Attn: Becky Clark  
P.O. Box 11206  
Tallahassee, FL 32302

Miccosukee Business Community  
Attn: Steve Terry  
P.O. Box 440021 – Tamiami Station  
Miami, FL 33144

Ah-tah-thi-ki-Museum  
Attn: Rick Trnka  
HC61 Box 21A  
Clewiston, FL 33440

The following Notice of Availability was published in *The Tampa Tribune* on July 27, 2007, announcing a 30-day public review period. A copy of the Draft EA and Draft FONSI were made available for the public to review in the Tampa-Hillsborough County Public Library for the 30-day public review period. Copies of the Draft EA and Draft FONSI were also distributed to the individuals identified in the IICEP list on pages C-3 and C-4 of this EA.

Paid Advertisement

**PUBLIC NOTICE**

**Notice of Availability**

**Draft Finding of No Significant Impact (FONSI)/  
Finding of No Practicable Alternative (FONPA) and  
Draft Environmental Assessment (EA)**

In accordance with the National Environmental Policy Act (NEPA), Air Force proposes to issue a Finding of No Significant Impact and Finding of No Practicable Alternative (FONSI/FONPA) based on an Environmental Assessment (EA) for Privatization of Military Family Housing (MFH) at MacDill Air Force Base (AFB), Hillsborough County, Florida.

The analysis considered in detail potential effects of the Proposed Action and the No Action Alternative on the following resources: noise, land use, air quality, safety, geological resources, water resources, biological resources, cultural resources, socioeconomic resources, infrastructure, and hazardous materials and wastes. The analysis in the EA shows that the Proposed Action would not have a significant effect on the environment; indicates that a FONSI would be appropriate; and that an Environmental Impact Statement is not necessary.

In accordance with Executive Order 11988, *Floodplain Management*, the EA evaluated alternatives to the privatization of MFH in the coastal floodplain. Privatization would include construction, renovation and demolition. The EA supports a finding contained in the FONSI that there is no practicable alternative to the proposed action occurring in the floodplain.

In accordance with the National Historic Preservation Act (NHPA), the Air Force has proposed to enter into a Programmatic Agreement with the Florida State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (AChP) to avoid adverse effects on the Staff Circle General Officers Quarters (GOQs) located on MacDill AFB that might otherwise occur in the transfer of this historic property out of Federal ownership. The Staff Circle GOQs, which are eligible for listing on the National Register of Historic Places, will remain on Federal land at MacDill AFB and will be subject to legally enforceable restrictions to fulfill all Air Force responsibilities under Section 106 of the NHPA. The Air Force has also notified the SHPO and AChP it intends to use its NEPA process to comply with Section 106 public participation requirements for this Proposed Action and Undertaking.

Copies of the Draft EA and FONSI/FONPA are available for review at the Tampa-Hillsborough County Public Library, Humanities Section, located at 900 N. Ashley Drive, Tampa, FL 33606. Public comments will be accepted for 30 days from date of publication. Written comments should be sent to Mr. Jason Kirkpatrick, 6 CES/CEVN, 2810 Pink Flamingo Avenue, MacDill AFB, FL 33621.

The following privacy advisory was also published as part of the Cover Sheet of the Draft EA:

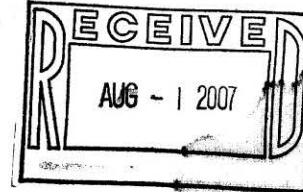
Your comments on this document are requested. Letters or other written comments provided may be published in the EA. Comments will normally be addressed in the EA and made available to the public. Any personal information provided will be used only to identify your desire to make a statement during the public comment period or to fulfill requests for copies of the EA or associated documents. Private addresses will be compiled to develop a mailing list for those requesting copies of the EA. However, only the names of the individuals making comments and specific comments will be disclosed; personal home addresses and phone numbers will not be published in the EA.

The remainder of this appendix contains comments received on the Draft EA and Draft FONSI during the 30-day review period.

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July 26, 2007



MEMORANDUM FOR DISTRIBUTION

The United States Air Force Air Mobility Command and the 6<sup>th</sup> Air Mobility Wing have prepared a Draft Environmental Assessment (EA) for the Privatization of Military Family Housing (MFH) at MacDill Air Force Base (AFB), Hillsborough County, Florida. The Proposed Action is to lease and convey MFH units at MacDill AFB to a private developer so that through construction, demolition, and renovation, the end-state total would be 571 housing units to ensure quality of life for Air Force airmen and their families. A copy of the Draft EA and the Draft Finding of No Significant Impact (FONSI) is included for your review.

In accordance with Executive Order 12372, *Intergovernmental Review of Federal Programs*, the Air Force requests your participation and solicits comments on the attached Draft EA and Draft FONSI. Copies of these documents also are available for public review until August 27, 2007, at the Tampa-Hillsborough County Public Library, Humanities Section, located at 900 N. Ashley Drive, Tampa, FL 33606.

Enclosed is a copy of the distribution list of those Federal, state, and local agencies that were sent copies of the Draft EA and Draft FONSI. If you feel there are additional agencies that should review and comment on the proposal, please feel free to include them in your distribution of this letter and attached materials.

Written comments should be addressed to the attention of Mr. Jason Kirkpatrick, 6 CES/CEVN, 2610 Pink Flamingo Avenue, MacDill AFB, FL 33621. Please contact Mr. Kirkpatrick at (813) 828-0459 or *Jason.Kirkpatrick.ctr@macdill.af.mil*, if you have any questions in this matter.

Sincerely,

Michael J. Moran, PhD  
e2M Program Manager



FWS Log No 07-FA-0133

The proposed action is not likely to adversely affect resources protected by the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.). This finding fulfills the requirements of the Act.

David L. Hankla  
Field Supervisor

8/02/07  
Date

Attachments:

- (1) Draft EA and Draft FONSI
- (2) Distribution List

engineering-environmental Management, Inc.

2751 Prosperity Avenue, Suite 200, Fairfax, VA 22031 • (703) 752-7755 • Fax (703) 752-7754

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**From:** Steve Terry [SteveT@miccosukeetribe.com]  
**Sent:** Monday, August 06, 2007 11:23 AM  
**To:** Kirkpatrick, Jason W CTR 6 CES/CEVN  
**Subject:** Privitazation of MFH at MacDill AFB

Dear Mr. Kirkpatrick:

The Miccosukee Tribe of Indians of Florida received the Draft EA for the Privatization of MFH at MacDill AFB. After consultation with Mr. Dayhoff and careful review of the documentation provided, the Tribe determined that there is no cultural, historical, or religious site of the Tribe at this location. This determination was based on the documentation provided by U. S. Air Force.

Thank you for consulting with us. Please call me at (305) 223-8380, Ext. 2244, if you require further information.

Steve Terry  
NAGPRA & Section 106 Representative  
Miccosukee Tribe  
P.O. Box 440021  
Miami, FL 33144-0021  
(305) 223-8380, Ext. 2244  
(305) 223-8380, Ext. 2243  
[SteveT@miccosukeetribe.com](mailto:SteveT@miccosukeetribe.com)

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# SEMINOLE TRIBE OF FLORIDA

## ◊ TRIBAL HISTORIC PRESERVATION OFFICE ◊

Tribal Historic  
Preservation Office

**TINA M. OSCEOLA**  
Executive Director

**WILLARD S. STEELE**  
Tribal Historic Preservation  
Officer

**DR. MARION SMITH**  
Compliance Review Supervisor

**BENJAMIN G. BURY**  
Tribal Archaeologist



Tribal Officers:

**MITCHELL CYPRESS**  
Chairman

**RICHARD BOWERS**  
Vice Chairman

**PRISCILLA D. SAYEN**  
Secretary

**MICHAEL D. TIGER**  
Treasurer

10 August 2007

Jason Kirkpatrick  
6 CES/CEVN  
2610 Pink Flamingo Avenue  
MacDill AFB Florida 33621

**Subject Project:** Draft EA for the Privatization of Military Family Housing at MacDill AFB.

Dear Mr. Kirkpatrick:

In regard to the above referenced projects, the Tribal Historic Preservation Office of the Seminole Tribe of Florida (THPO STOF) has reviewed the draft EA and Programmatic Agreement sent with the letter of Michael Moran dated 26 July 2007. We are unaware of any additional cultural resources that are within or adjacent to the areas of potential effect that would be impacted by the proposed undertaking. In addition it is advised that if an archaeological site or human remains become known during the construction we would want to be informed at the telephone number or address listed below. Thank you for the opportunity to review this correspondence. In any future communication about this project please refer to **THPO-000573**.

Respectfully,

Willard S. Steele  
Tribal Historic Preservation Officer  
Seminole Tribe of Florida  
HC 61, Box 21-A  
Clewiston, FL 33440  
Tel: 863.902.1113

**Please direct response to:**  
Wesley L. Andrews  
Reviewing Archaeologist  
Seminole Tribe of Florida  
HC 61, Box 21-A  
Clewiston, FL 33440  
Tel: 863.902.1113 ext 12248

Ah-Tah-Thi-Ki Museum, HC-61, Box 21-A, Clewiston, Florida 33440  
Phone (863) 902-1113 ♦ Fax (863) 902-1117

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**From:** Mark Sramek [Mark.Sramek@noaa.gov]  
**Sent:** Thursday, August 16, 2007 11:10 AM  
**To:** Kirkpatrick, Jason W CTR 6 CES/CEVN  
**Cc:** HCD Panama City  
**Subject:** Privatization of Military Family Housing at MacDill Air Force Base

NOAA's National Marine Fisheries Service (NMFS), Southeast Region, Habitat Conservation Division (HCD), has reviewed the July 26, 2007, Draft Environmental Assessment for Privatization of Military Family Housing at MacDill Air Force Base, and Finding of No Significant Impact document for the United States Air Force's proposed activity on MacDill Air Force Base in Tampa Bay, in Hillsborough County, Florida. Based upon our review of the information provided, the resources affected are not ones for which NMFS, HCD, is responsible and therefore, we have no comment to provide regarding the proposed activity. Thank you for our opportunity to review this project.

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The following letters from the Florida Division of Historical Resources and the Florida State Clearinghouse were received after the close of the 30-day review period. No other late public review comments were received.



FLORIDA DEPARTMENT OF STATE  
**Kurt S. Browning**  
Secretary of State  
DIVISION OF HISTORICAL RESOURCES

Mr. Jason Kirkpatrick  
Department of the Air Force  
6 CES/CEVN  
2610 Pink Flamingo Avenue  
MacDill Air Force Base, Florida 33621

September 11, 2007

RE: DHR Project File Number: 2007-6489  
Received by DHR: July 30, 2007  
*Draft Environmental Assessment of the Privatization of Military Family Housing at MacDill Air Force Base, Hillsborough County*

Dear Mr. Kirkpatrick:

Our office reviewed the referenced project for possible impact to historic properties listed, or eligible for listing, in the *National Register of Historic Places*, or otherwise of historical, architectural or archaeological value. The review was conducted in accordance with Section 106 of the *National Historic Preservation Act of 1966*, as amended and 36 CFR Part 800: *Protection of Historic Properties*, the *National Environmental Policy Act of 1969*, as amended and the implementing state regulations.

We reviewed Sections 3.8 and 4.8, which deal with Cultural Resources of the above referenced draft environmental assessment. Based on the information provided, it is the opinion of this office that the Department of the Air Force has adequately addressed cultural resources.

If you have any questions concerning our comments, please contact Scott Edwards, Historic Preservationist, by electronic mail [sedwards@dos.state.fl.us](mailto:sedwards@dos.state.fl.us), or at 850-245-6333 or 800-847-7278.

Sincerely,

A handwritten signature in black ink that reads "Frederick P. Gaske".

Frederick P. Gaske, Director, and  
State Historic Preservation Officer

XC: Michael J. Moran, Engineering-Environmental Management, Inc.

500 S. Bronough Street • Tallahassee, FL 32399-0250 • <http://www.flheritage.com>

<input type="checkbox"/> Director's Office (850) 245-6300 • FAX: 245-6436	<input type="checkbox"/> Archaeological Research (850) 245-6444 • FAX: 245-6452	<input checked="" type="checkbox"/> Historic Preservation (850) 245-6333 • FAX: 245-6437	<input type="checkbox"/> Historical Museums (850) 245-6400 • FAX: 245-6433
<input type="checkbox"/> Southeast Regional Office (561) 416-2115 • FAX: 416-2149	<input type="checkbox"/> Northeast Regional Office (904) 825-5045 • FAX: 825-5044	<input type="checkbox"/> Central Florida Regional Office (813) 272-3843 • FAX: 272-2340	

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## Florida Department of Environmental Protection

Marjory Stoneman Douglas Building  
3900 Commonwealth Boulevard  
Tallahassee, Florida 32399-3000

Charlie Crist  
Governor

Jeff Kottkamp  
Lt. Governor

Michael W. Sole  
Secretary

September 20, 2007

Mr. Jason W. Kirkpatrick  
Department of the Air Force  
6 CES / CEVN  
2610 Pink Flamingo Avenue, Bldg. 147-310  
MacDill AFB, FL 33621-5207

RE: Department of the Air Force - Draft Environmental Assessment for the  
Privatization of Military Family Housing at MacDill Air Force Base -  
Hillsborough County, Florida.  
SAI # FL200707303657C (Reference SAI # FL200607172575C)

Dear Mr. Kirkpatrick:

The Florida State Clearinghouse, pursuant to Presidential Executive Order 12372, Gubernatorial Executive Order 95-359, the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended, and the National Environmental Policy Act, 42 U.S.C. §§ 4321, 4331-4335, 4341-4347, as amended, has coordinated a review of the referenced Draft Environmental Assessment (DEA).

The Environmental Protection Commission of Hillsborough County (EPC) has provided a number of recommendations regarding housing construction and demolition activities and the control of potential emissions of dust, odor and noise; the proper notification, handling and removal of asbestos containing materials; impacts to wastewater, water and stormwater facilities; handling of demolition debris, other solid waste and hazardous waste; and wetland impact minimization and mitigation. Please refer to the enclosed EPC letter and attachment for further details and recommendations.

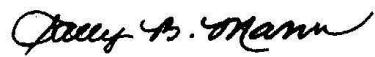
Based on the information contained in the DEA and the enclosed comments provided by our reviewing agencies, the state has determined that, at this stage, the proposed federal action is consistent with the Florida Coastal Management Program (FCMP). Please continue to coordinate with the Florida Department of Environmental Protection, Southwest Florida Water Management District and Hillsborough County EPC regarding the proposed construction and demolition activities to ensure compliance with the applicable pollution control, stormwater management and environmental resource permitting requirements. The state's final concurrence of the project's consistency with the FCMP will be determined during the environmental permitting stage.

*"More Protection, Less Process"*  
[www.dep.state.fl.us](http://www.dep.state.fl.us)

Mr. Jason W. Kirkpatrick  
September 20, 2007  
Page 2 of 2

Thank you for the opportunity to review the proposed project. Should you have any questions regarding this letter, please contact Ms. Lauren P. Milligan at (850) 245-2170.

Yours sincerely,



Sally B. Mann, Director  
Office of Intergovernmental Programs

SBM/lm  
Enclosures

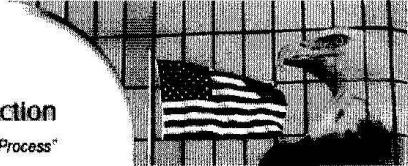
cc: John Meyer, TBRPC  
Reginald Sanford, Hillsborough County EPC



# Florida

**Department of Environmental Protection**

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#### Project Information

<b>Project:</b>	FL200707303657C
<b>Comments Due:</b>	09/04/2007
<b>Letter Due:</b>	09/28/2007
<b>Description:</b>	DEPARTMENT OF THE AIR FORCE - DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PRIVATIZATION OF MILITARY FAMILY HOUSING AT MACDILL AIR FORCE BASE - HILLSBOROUGH COUNTY, FLORIDA.
<b>Keywords:</b>	USAF - PRIVATIZATION OF MILITARY FAMILY HOUSING, MACDILL AFB - HILLSBOROUGH CO.
<b>CFDA #:</b>	12.200

#### Agency Comments:

##### ENVIRONMENTAL PROTECTION - FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Please continue to coordinate with the Florida Department of Environmental Protection, Southwest Florida Water Management District and Hillsborough County EPC regarding the proposed construction and demolition activities to ensure compliance with the applicable pollution control, stormwater management and environmental resource permitting requirements.

##### STATE - FLORIDA DEPARTMENT OF STATE

No Comment/Consistent

##### SOUTHWEST FLORIDA WMD - SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT

No Comments Received

##### TAMPA BAY RPC - TAMPA BAY REGIONAL PLANNING COUNCIL

Please see the Hillsborough County EPC's comments.

##### HILLSBOROUGH - HILLSBOROUGH COUNTY

The Environmental Protection Commission of Hillsborough County has provided a number of recommendations regarding housing construction and demolition activities and control of potential emissions of dust, odor or noise; the proper notification, handling and removal of asbestos containing materials; impacts to wastewater, water and stormwater facilities; handling of demolition debris, other solid waste and hazardous waste; and wetland impact minimization and mitigation. Please refer to the enclosed County letter for further details.

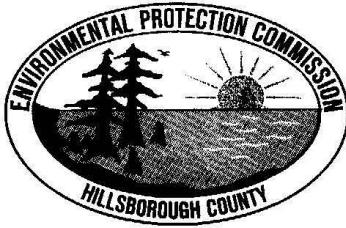
For more information or to submit comments, please contact the Clearinghouse Office at:

3900 COMMONWEALTH BOULEVARD, M.S. 47  
TALLAHASSEE, FLORIDA 32399-3000  
TELEPHONE: (850) 245-2161  
FAX: (850) 245-2190

Visit the Clearinghouse Home Page to query other projects.

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COMMISSION  
Brian Blair  
Rose V. Ferlita  
Ken Hagan  
Al Higginbotham  
Jim Norman  
Mark Sharpe  
Kevin White



Roger P. Stewart Center  
3629 Queen Palm Dr. • Tampa, FL 33619  
Ph: (813) 627-2600  
Fax Numbers (813):  
Admin. 627-2620 Waste 627-2630  
Legal 627-2602 Wetlands 627-2630  
Water 627-2670 ERM 627-2650  
Air 627-2660 Lab 272-5157

Executive Director  
Richard D. Garrity, Ph.D.

September 10, 2007

**RECEIVED**

**SEP 14 2007**

**OIP / OLGA**

Lauren P. Milligan, Environmental Manager  
Florida State Clearinghouse

Florida Department of Environmental Protection

3900 Commonwealth Blvd, M.S. 47

Tallahassee, FL 32399-3000

**Re: Draft Environmental Assessment for the Privatization of Military Family Housing at MacDill Air Force Base Comments**

Dear Ms. Milligan:

Thank you for the opportunity to review and comment on the Draft Environmental Assessment for the Privatization of Military Family Housing at MacDill Air Force Base. The Environmental Protection Commission (EPC) is a local government environmental agency that operates under the Hillsborough County Environmental Protection Act, Chapter 84-446, Laws of Florida. The EPC staff has reviewed the document and offers the following comments for your consideration.

**A. Air Management Division**

- Should the projects cause an air pollution nuisance, the Air Management Division may require a plan to address and mitigate any emissions of dust, odor, or noise caused by construction/demolition activities.
- According to the asbestos NESHAP, Section 61.141 of Subpart M, 40 CFR 61, the definition of a facility includes any institutional, commercial, public, industrial, or residential structure, *installation*, or building. MacDill Air Force Base is an installation and as such, constitutes one facility. Asbestos demolition notification must be submitted to this office at least ten working days prior to the start of any planned demolition activities, along with the appropriate fee. This includes the demolition of residential structures, regardless of number of dwelling units, as well as commercial buildings. Please note, according to the asbestos NESHAP a demolition is the wrecking or taking out of any load-supporting structural member of a facility together with any related handling operations.

In addition, the regulated removal of asbestos containing materials from any structures (including all residential structures) to be renovated or demolished requires notification. All notifications and appropriate fees should be submitted at least ten working days prior to the start of the planned activity.

[www.epchc.org](http://www.epchc.org)  
E-Mail: [epcinfo@epchc.org](mailto:epcinfo@epchc.org)  
AN AFFIRMATIVE ACTION - EQUAL OPPORTUNITY EMPLOYER

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Prior to the start of any demolition or renovation activities, a thorough asbestos inspection must be performed. According to Chapter 469.003 Florida Statute, asbestos survey inspections must be performed by a licensed asbestos consultant. Phase I Environmental Assessment reports may not be used in lieu of a thorough asbestos survey inspection conducted by a trained and licensed asbestos consultant. A copy of the asbestos survey report should be maintained on site at all times. For demolition activities, include a copy of the asbestos survey report with the notification and fee. Asbestos containing waste materials must be disposed of per local, state and federal regulation. Contact our office or visit <http://www.epchc.org/Asbestos.htm> for more information concerning asbestos notification requirements.

- All open burning is prohibited unless approved and permitted by EPC or the Division of Forestry. An air pollution permit is required for potential industrial sources of air pollution that meet or exceed the pollutant criteria established by rule.
- Please be advised that there is a noise rule for Hillsborough County and the applicant is subject to the provisions of Chapter 1-10, Noise, Rules of the EPC, which outlines to the following guidelines as they relate to construction activity.

Construction activities occurring between the hours of 7 a.m. and 6 p.m. Monday through Friday, 8 a.m. and 6 p.m. Saturday, and 10 a.m. and 6 p.m. Sunday are exempt if reasonable precautions are taken to abate the noise from those activities. Reasonable precautions shall include but not be limited to noise abatement measures such as enclosure of the noise source, use of acoustical blankets, and change in work practice. Construction activities occurring at all other times shall be subject to the Rule which can be viewed at [www.epchc.org](http://www.epchc.org).

- The project must incorporate reasonable precautions to control unconfined emissions of particulate matter, including, but not limited to, the methods, practices and procedures contained in Chapter 62-296.320, Florida Administrative Code (F.A.C.).
- If any crushing equipment for crushing concrete or other materials will be operated on the site, then proper regulatory notifications must be submitted and necessary authorizations and applicable permits must be obtained under Chapter 62-210.300, F.A.C.
- The above Air Management Division comments are not inclusive and may be amended based on additional data and further review. Please be advised, these comments do not exempt the applicant from any permitting or notification requirements. It is the responsibility of the applicant to acknowledge and comply with all applicable rules and regulations on a continuing basis.

**B. Water Management Division**

- The draft report correctly identifies various programs and regulatory requirements related to wastewater and storm water that are currently in place and will continue to be implemented throughout any demolition, refurbishment or construction of MFH units in order to protect water quality.
- Although a number of parcels of land will be conveyed to a private organization, wastewater pump stations and main line will not be transferred and will remain the responsibility of MacDill AFB.

September 10, 2007

Page 3 of 3

- The privatization effort will include the demolition and reconstruction of a number of MFH units. Wastewater lines impacted as a result of the demolition and construction projects should be secured so as to prevent inflow of storm water to the sewage collection system.
- As part of constructing new MFH units, the owner may be subject to sewage collection permitting, (62-604, F.A.C) delegated by DEP implemented by EPC, as a result of constructing new sewage lines and/or pump stations.

**C. Waste Management Division**

- It must be ensured that all construction and demolition debris, other solid waste and hazardous waste generated through the construction demolition or renovation of structures is stored, managed and disposed in accordance with Chapter 1-7, Rules of the Environmental Protection Commission of Hillsborough County, Chapter 62-701, F.A.C, and Chapter 62-780, F.A.C.;
- It must be ensured that all areas within the scope of the project which are known or suspected to be contaminated are investigated, remediated and controlled in accordance with Chapter 62-780, F.A.C.

**D. Wetlands Division**

- No wetland impacts are anticipated for this project. Please understand that should wetland impact/mitigation be found to be necessary in the future, the information and procedures are attached for your reference.

Thank you again for the opportunity to participate in this review and for the time extension to receive comments regarding the Environmental Assessment for the Privatization of Military Housing at MacDill Air Force Base. Should you have any questions or need further clarification on the information provided above, please feel free to contact me at 813-627-2600 extension 1254 or [Sanford@epchc.org](mailto:Sanford@epchc.org).

Sincerely,



Reginald Sanford, M.P.H.  
General Manager II

cc: Jessica White, Tampa Bay Regional Planning Council

Attachment

**Wetland Impact/Mitigation Information and Procedures**

To obtain a recommendation of approval from EPC Wetlands Management Division staff for subsequently submitted plans, including construction plans, the following items should be addressed in the order enumerated below:

**1. DELINEATIONS:**

Knowledge of the actual extent of the wetlands is necessary in order to verify the avoidance of wetland impacts pursuant to Chapter 1-11, Wetlands, Rules of the EPC. Please be aware that there may be discrepancies between the conceptual wetland line depicted on the site plan and the actual extent of the wetlands that are revealed upon completion of the wetland delineation.

**2. SURVEYS:**

Once the wetlands have been delineated, wetland surveys must be submitted to EPC staff for review and formal approval. The approved wetland line must then be incorporated into the development of a site plan. The wetland line must appear on all site plans, labeled as "EPC Wetland Line", the wetland must be labeled as "Wetland Conservation or Preservation Area", and the setback labeled as "25-foot Wetland Conservation/Preservation Area Setback", pursuant to the City of Tampa codes.

**3. WETLAND IMPACTS:**

A separate wetland impact/mitigation proposal and the appropriate review fee, as provided in Chapter 1-6, Rules of the EPC, must be submitted to the EPC for review. Please be aware that a submittal provides no reliance that the wetlands may be developed as proposed and that EPC staff cannot approve plans at the construction phase if unapproved wetland impacts are depicted. Therefore, it is strongly recommended that EPC authorization to impact wetlands be obtained prior to the submittal of construction plans.

**Impact Justification / Mitigation**

Chapter 1-11.01, Rules of the EPC, states that development requiring mitigation be an avenue of last resort when reasonable use of the property is otherwise unavailable. To complete a proposal to impact wetlands, the applicant must provide the following information through a separate process. The encroachment/mitigation plan should be for the project in its entirety. Staff of the EPC will review any proposal and consider it based on its own merit.

- A. A narrative describing the project and the justification for each wetland impact requested for project development. Measures taken to demonstrate wetland impact minimization and avoidance must also be documented. A description of the wetlands

and wetland impact acreage proposed should be included in the package and the wetlands proposed for impact must be clearly identified on the plans.

B. A proposal to perform mitigation per Chapter 62-345, F.A.C., the Uniform Mitigation Assessment Method (UMAM), must be included in the submittal. Along with the mitigation notes listed below, the mitigation proposal must include the following:

- UMAM review and worksheets;
- Cross sections indicating slopes, depth of excavation, and water levels;
- A planting scheme, including types of plants to be used, size, source, and spacing;
- Total acreage of wetlands impacted and mitigation offered; and,
- Time tables for beginning and completion of mitigation work, monitoring and maintenance schedule, and submittal of reports.

C. Before the construction plan can be approved by EPC staff, a completed 'Approval and Mitigation Agreement' is required along with the appropriate recording fee.

D. The following notes must be placed on the detailed mitigation plan:

**Mitigation Notes**

1. A Mitigation Completion Report, to include planting details of the mitigation areas, shall be submitted to the EPC within 30 days of completing construction and planting of the mitigation areas. If the mitigation involves wetland creation, an as-built survey must be submitted which includes representative elevations of the bottom and slopes of the creation area. A contour line within 0.1' of the upper design elevation (typically Seasonal High Water) shall be depicted on the survey. Using the polygon formed by the upper elevation contour, the as-built acreage of the mitigation area(s) shall be calculated and reported on the survey. Upon EPC staff inspection and approval of the mitigation area(s), the monitoring program shall be initiated.
2. Semi-annual monitoring along with associated monitoring reports and maintenance is required for a minimum of three years for herbaceous/shrub systems and five years for a forested system. Monitoring reports must be submitted to EPC staff within 30 days following each monitoring event. At a minimum, monitoring reports should address:
  - a) Date planted and number of planted materials used;
  - b) Soil stabilization measures used;
  - c) Percent survival of planted species;
  - d) Number of plants replanted, if necessary, and when planted;
  - e) 20-25% of trees tagged to monitor tree growth rate and DBH (Forested Systems);
  - f) Water quality
  - g) Visual observations

- h) Lab data if necessary, i.e., salinity, conductivity, pH, etc.;
- i) Desirable wetland species cover;
- j) Plant diversification and natural recruitment (with a listing of species present);
- k) Depth of water at monitoring event;
- l) Permanently marked photo stations;
- m) Wildlife usage;
- n) Overall ecological evaluation; and,
- o) Problems encountered and corrective actions implemented or needed.

3. The removal and control of nuisance or exotic species is required. Nuisance species coverage must not exceed five (5) percent. Caesar weed (*Urena lobata*), Brazilian pepper (*Schinus terebinthifolius*), air potato (*Dioscorea bulbifera*), ear pod tree (*Enterolobium contortisiliquum*), cattails (*Typha spp.*), primrose willow (*Ludwigia peruviana*), dogfennel (*Eupatorium spp.*), *Sesbania* spp., and water hyacinths (*Eichhornia spp.*) are examples of nuisance species but do not represent a comprehensive list.

4. Eighty-five percent (85%) survival must be guaranteed for each planted tree and shrub species. Fifty percent (50%) cover with desirable native wetland species must be achieved  
at the end of year 1, seventy percent (70%) at year 2 and eighty-five percent (85%) prior to release. Annual replanting is required if these criteria are not met.

5. The plant source must be indicated (i.e., certified nursery grown, bare root, transplanted from on site). If collected plants are to be used, donor sites must be identified and approved by EPC staff.

6. Monitoring and maintenance must continue until all EPC success criteria have been met, at which time a Certificate of Completion is issued. If success criteria cannot be met, reconstruction of the mitigation site may be necessary to achieve functioning wetlands.

7. The mitigation work must be completed, along with the submittal of the Mitigation Completion report, within 180 days of initial wetland impact.

E. A timetable indicating the anticipated construction date and mitigation completion date must be included.

F. If the mitigation acreage, cumulatively, is greater than 0.5 acres, or consists of upland preservation of any acreage, a conservation easement must be placed over the mitigation area(s). The conservation easement, attached legal description and appropriate recording fees must be submitted with the Mitigation Completion Report.

#### **4. CONSTRUCTION PLANS**

The following comments are made for informational purposes only. However, future EPC review is not limited to the following, regardless of the apparentness of the concern raised by the preliminary plan, and EPC staff may identify other legitimate concerns at any time prior to final plat approval.

Construction plans must, at a minimum, include the following information and must be included in all future submittals. Please be advised that omission of any of the following may result in a recommendation of denial from EPC staff.

- A. Wetland lines, wetland areas and wetland setback lines must be labeled as “EPC Wetland Line”, “Wetland Conservation or Preservation Area”, and “25-foot Wetland Conservation or Preservation Area Setback Line” pursuant to the City of Tampa codes. Failure to properly label these features on future plans may result in a recommendation of denial from this agency. The setback line must be shown in its entirety even if impacts to the setback are proposed. Furthermore, where setback encroachments are proposed, a narrative shall be submitted describing the necessity for the setback encroachments proposed, and measures taken to protect the wetland areas from construction related impacts.
- B. All wetland impacts must be labeled, cross-hatched, and acreage calculated on all plan sheets where they appear. Proposed mitigation must be shown and labeled.
- C. Erosion control devices must be placed between the Wetland Conservation or Preservation Area and the area to be developed (typically along the wetland setback line). Suitable erosion control devices must be in place prior to any disturbance of materials on site, and must remain in place until all loose soils have been stabilized. The method of erosion control to be used (i.e., silt screens, etc.) must be stated and the placement (i.e., along the wetland setback) must be indicated.
- D. Cross-sections must be included where wetlands or the wetland setback interface with roads, stormwater sumps/ponds, or any other graded feature. These cross-sections must accurately depict the EPC Wetland Line and Wetland Setback Line, erosion control devices, the toe of fill, proposed and existing grades, and vertical and horizontal scales. The depths of any ponds proposed for excavation adjacent to wetlands must be shown along with hydrologic information for the wetlands.
- E. Cross-sections must also be provided where ponds outfall to wetlands through a 30/50-foot Wetland Conservation/Preservation Area Setback. The cross-section must show positive outfall to the wetland. This may be accomplished by the excavation of a swale excavated to a “daylight” elevation.
- F. Any proposed temporary wetland impact resulting from a hand-dug, V-swale area must be detailed on the construction plans. The plans must indicate the proposed length and depth of the swale and provide a typical cross-section. The plans must

also indicate the proposed spoil deposition area which must be placed outside the wetland and wetland setback limits. Staff of the EPC will require re-vegetation of the swale at the time of as-built review inspection. This may be accomplished through natural recruitment, or to insure re-vegetation of the swale at the time of inspection, through re-planting with native, non-nuisance wetland vegetation. Please be advised that EPC staff will not recommend approval of the as-built plans to the Hillsborough County Planning and Growth Management Department until such time as EPC staff can determine that erosion of the swale has been abated and that re-vegetation of the swale will occur.

- G. Construction plans must be submitted along with a complete set of drainage calculations that include all wetland seasonal water elevations.
- H. Soil boring information and a geotechnical report will be required for the project if proposed pond depth elevations exceed seven feet below surface elevation. This information is required based on the depth of excavation of stormwater ponds and their proximity to any wetlands. Borings must be taken from the point of maximum excavation adjacent to any wetland.
- I. In order to protect the aquifer, please provide assurance to EPC staff that no confining units will be penetrated during excavation. The following note is to be included in the construction plan notes:

**LAKE/POND EXCAVATION NOTE:**

- J. "No excavation shall extend below the permitted design depths/elevations shown on the drawings, unless additional testing supports otherwise; and no lower semi-confining unit clayey soil material and/or limestone materials shall be excavated, regardless if these materials are encountered within the permitted excavation depths/elevations. If any lower semi-confining unit clay soil materials or limestone materials are encountered above the permitted depths/elevations, then excavation operations shall cease in the general area. EPC Wetlands Management staff must be contacted prior to any excavation of clays."
- K. As-built plans and surveys must include all wetland control data.

**General Comments/ Conditions:**

- All efforts must be undertaken to prevent any erosion or turbid water from being discharged into wetlands and/or waters of the County. Turbid discharges that exceed 29 Nephelometric Turbidity Units above background levels are a violation pursuant to Chapter 1-5, the EPC Water Quality Rule. The erosion or discharge of sediments into wetlands is a violation of Chapter 1-11, the EPC Wetland Rule. Silt screens or other EPC approved methods or erosion/turbidity control may be required. It is the responsibility of the owner/developer to

insure the installation of adequate erosion control barriers prior to the commencement of any site work. These erosion control devices must be maintained in good condition throughout the construction process and until all loose soils have stabilized. It is strongly recommended that all erosion control devices be regularly inspected during construction and modified if conditions warrant.

- Any activity interfering with the integrity of wetland(s), such as clearing, excavating, draining or filling, without written authorization from the Executive Director of the EPC or his authorized agent, pursuant to Section 1-11.07, Rules of the Commission, would be a violation of Section 17 of the Environmental Protection Act of Hillsborough County, Chapter 84-446, and Chapter 1-11, Rules of the EPC.
- At any time prior to approval of construction plans for this project, EPC staff may identify other legitimate concerns as they become obvious.

COUNTY: HILLSBOROUGH  
SCH USAF EA MD

DATE: 7/30/2007  
COMMENTS DUE DATE: 9/4/2007  
CLEARANCE DUE DATE: 9/28/2007  
SAI#: FL200707303657C  
REFER TO: FL200607172575C

MESSAGE: 2007-06498

STATE AGENCIES	WATER MNGMT. DISTRICTS	OPB POLICY UNIT	RPCS & LOC GOVS
ENVIRONMENTAL PROTECTION	SOUTHWEST FLORIDA WMD		
X STATE			

The attached document requires a Coastal Zone Management Act/Florida Coastal Management Program consistency evaluation and is categorized as one of the following:

- Federal Assistance to State or Local Government (15 CFR 930, Subpart F). Agencies are required to evaluate the consistency of the activity.
- X Direct Federal Activity (15 CFR 930, Subpart C). Federal Agencies are required to furnish a consistency determination for the State's concurrence or objection.
- Outer Continental Shelf Exploration, Development or Production Activities (15 CFR 930, Subpart E). Operators are required to provide a consistency certification for state concurrence/objection.
- Federal Licensing or Permitting Activity (15 CFR 930, Subpart D). Such projects will only be evaluated for consistency when there is not an analogous state license or permit.

**Project Description:**

DEPARTMENT OF THE AIR FORCE - DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PRIVATIZATION OF MILITARY FAMILY HOUSING AT MACDILL AIR FORCE BASE - HILLSBOROUGH COUNTY, FLORIDA.

RECEIVED

SEP 10 2007

OIP/OLGA

To: Florida State Clearinghouse

EO. 12372/NEPA Federal Consistency

AGENCY CONTACT AND COORDINATOR (SCH)  
3900 COMMONWEALTH BOULEVARD MS-47  
TALLAHASSEE, FLORIDA 32399-3000  
TELEPHONE: (850) 245-2161  
FAX: (850) 245-2190

No Comment/Consistent  
 Comment Attached  
 Not Applicable  
 No Comment/Consistent  
 Consistent/Comments Attached  
 Inconsistent/Comments Attached  
 Not Applicable

From:

Division of Historical Resources

Division/Bureau:

Bureau of Historic Preservation

Reviewer: S. Edwards

Laura R. Kammerer, Deputy SHPO

Date: 9-6-07

9. 6. 2007

2007 AUG - 2 / A 11: 00

HISTORIC PRESERVATION  
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RECEIVED

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## **APPENDIX D**

**PROGRAMMATIC AGREEMENT BETWEEN THE U.S. AIR FORCE,  
THE FLORIDA STATE HISTORIC PRESERVATION OFFICER,  
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION REGARDING  
THE PRIVATIZATION OF THE STAFF CIRCLE GENERAL OFFICERS QUARTERS**

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DEPARTMENT OF THE AIR FORCE  
6TH AIR MOBILITY WING (AMC)  
MACDILL AIR FORCE BASE, FLORIDA



MEMORANDUM FOR DIVISION OF HISTORIC RESOURCES

ATTENTION: FREDERICK P. GASKE  
Director/State Historic Preservation Officer  
500 South Bronough Street  
Tallahassee, FL 32399-0250

JUL 24 2007

FROM: 6 CES/CL  
7621 Hillsborough Loop Drive  
MacDill AFB, Florida 33621

SUBJECT: Programmatic Agreement for Privatization of Staff Circle General Officers Quarters

1. As described in our letter to you dated 30 Mar 07, the Air Force has proposed to undertake a Military Housing Privatization Initiative ("MHPI") at MacDill Air Force Base, Hillsborough County, Florida. The MHPI will transfer the Staff Circle General Officers' Quarters out of Federal ownership. Staff Circle is an historic district eligible for listing on the National Register of Historic Places, and its 2.9-acre area constitutes the Area of Potential Effects for this undertaking.
2. This letter submits the attached Programmatic Agreement (PA) regarding the privatization of Staff Circle. The PA is intended to address Air Force responsibilities under Section 106 of the National Historic Preservation Act (NHPA). The proposed PA is the result of consultation involving your staff and the Advisory Council on Historic Preservation (ACHP). Parties with a potential interest in the effects of this undertaking have been notified. As described below, the Air Force has sought and will consider the views of the public. By this letter, we request your review and approval of the PA as the Florida State Historic Preservation Officer (SHPO).
3. The PA imposes adequate and legally enforceable restrictions on the undertaking to avoid the adverse effects otherwise associated with a transfer of historic properties. The conditions imposed on this undertaking support the Air Force finding of no adverse effect proposed previously. A record of the finding will be maintained by the Air Force in accordance with 36 C.F.R. 800.5.
4. This letter also restates the Air Force commitment to comply with the public participation provisions of the NHPA and ACHP's implementing regulations. In this regard, Air Force has prepared a Draft Environmental Assessment (DEA) and Finding of No Significant Impact (FONSI) for the proposed MHPI to comply with the National Environmental Policy Act (NEPA). The Air Force intends to use its NEPA process to comply with Section 106 of the NHPA in accordance with 36 C.F.R. 800.8(c) in lieu of procedures set forth in 36 C.F.R. 800.3 through 800.6. The DEA and draft FONSI are being made available to the public for a 30-day review.
5. Four signed, original copies of the PA are attached for your signature approval. All counter-signed copies should be returned to Mr. Jason Kirkpatrick, 6 CES/CEVN, 2610 Pink Flamingo

AMC--GLOBAL REACH FOR AMERICA

Avenue, MacDill AFB, FL 33621. The Selected Privatization Offeror, AMC East L.L.C, will concur on the PA. All originals will be sent to the ACHP for approval by its Executive Director. One copy of the signed original will be maintained by each of the four organizations signing the PA.

6. We greatly appreciate the cooperation shown by your staff during our consultation. Please contact Mr. Jason Kirkpatrick at (813) 828-0459 or [Jason.Kirkpatrick.ctr@macdill.af.mil](mailto:Jason.Kirkpatrick.ctr@macdill.af.mil), if you have any questions in this matter.



ROBERT B. HUGHES, YF-03  
Director, 6th Civil Engineer Squadron

Attachment:

1. Programmatic Agreement with Exhibit A

cc:

Advisory Council on Historic Preservation  
AF/A7CAH/A7CAQ  
HQ AMC/A7Q/A7P/A7V/JAV  
6 AMW/CV/JA  
AFCEE/HDP  
Clark Realty Capital, L.L.C.

**AMC--GLOBAL REACH FOR AMERICA**

**PROGRAMMATIC AGREEMENT  
AMONG  
THE DEPARTMENT OF THE AIR FORCE,  
THE FLORIDA STATE HISTORIC PRESERVATION OFFICER, AND  
THE ADVISORY COUNCIL ON HISTORIC PRESERVATION  
REGARDING PRIVATIZATION OF THE STAFF CIRCLE  
GENERAL OFFICERS QUARTERS  
MACDILL AIR FORCE BASE, FLORIDA**

**WHEREAS**, the United States Air Force (“**Air Force**”) has determined to privatize military family housing and certain ancillary facilities at MacDill AFB, Hillsborough County, Florida (hereinafter the “**Undertaking**”), pursuant to the Military Housing Privatization Initiative (P.L. 104-106, 110 Stat. 544, Title XXVIII, Subtitle A, Section 2801); and

**WHEREAS**, pursuant to the Undertaking the Air Force will lease to a private commercial entity to be solicited and selected by the Air Force (hereinafter the “**Selected Privatization Offeror**”), approximately 236.1 acres of real property located on MacDill AFB (hereinafter the “**MacDill MHPI Property**”), convey ownership of certain Air Force-owned improvements and personal property located on the MacDill MHPI Property to the Selected Privatization Offeror, and execute other necessary agreements for the purpose of the design, construction, demolition, renovation, operation and maintenance of a privately-owned rental housing development primarily for use by military personnel and their dependents authorized to live on MacDill AFB; and

**WHEREAS**, located on the MacDill MHPI Property and among the Air Force-owned improvements to be conveyed to the Selected Privatization Offeror are certain General Officers’ Quarters (Buildings 401, 402, 403, 404 and 405) and an associated wooden garage (Building 398) as more particularly described in Exhibit A attached hereto and made a part hereof (hereinafter collectively referred to as “**Staff Circle**”); and

**WHEREAS**, Staff Circle is an historic district eligible for listing on the National Register of Historic Places (“**NRHP**”) and the Area of Potential Effects, within the meaning of 36 C.F.R. Section 800.16, for this Undertaking consists of the area as more particularly described in Exhibit A to this PA; and

**WHEREAS**, the Undertaking will result in a transfer of Staff Circle out of Federal ownership by a conveyance of fee ownership of Staff Circle by quitclaim deed

and a short-term lease of the approximately 2.9 acres of land on which Staff Circle is located (the “**Staff Circle Land**”) until the earlier of (i) such time as the Selected Privatization Offeror completes the construction of certain replacement General Officers’ Quarters, or (ii) six (6) years. Upon the termination of this short-term lease, the land and Staff Circle shall revert to the Air Force; and

**WHEREAS**, the Air Force has determined that, without the legally enforceable restrictions contained in this Programmatic Agreement (“PA”), implementation of the Undertaking would be an adverse effect upon Staff Circle and has consulted with the Florida State Historic Preservation Officer (the “**SHPO**”) and the Advisory Council on Historic Preservation (the “**ACHP**”) in accordance with Section 106 of the NHPA, and its implementing regulations found at 36 C.F.R. Part 800, and

**NOW, THEREFORE**, the Air Force, SHPO and ACHP (collectively, the “**Signatories**”) agree that the Undertaking shall be implemented in accordance with the following stipulations in order to avoid the adverse effect of the Undertaking on Staff Circle.

#### **STIPULATIONS**

The Air Force will ensure that the following measures are carried out. These stipulations are, to the extent they are applicable, tailored to preserve the unique historic character of Staff Circle.

#### **I. LEASE AND CONVEYANCE ACTIVITIES**

A. The Air Force will ensure the Selected Privatization Offeror’s compliance with all of the applicable requirements of this PA by incorporating this PA, in full or by reference, into the lease of the MacDill MHPI Property (the “**Lease**”).

B. Lease: The Air Force is responsible for preparing the Lease and will include all terms and conditions, as further described below, within the Lease:

1. In order to ensure the preservation of Staff Circle, the Lease shall contain terms and conditions that require the Selected Privatization Offeror to conform to the management standards and guidelines for the treatment of historic properties established by the Secretary of the Interior’s *Standards for Rehabilitation and Illustrated Guidelines for Rehabilitating Historic Buildings* (U.S. Department of the Interior, National Park Service, 1983; hereinafter “**Standards**”). The Lease shall contain terms and conditions providing that the Signatories have agreed that certain types of activities have a very limited potential to affect historic housing units and are, therefore, exempt from the formal review process with the SHPO otherwise required under this PA with respect to activities affecting the historic housing units. These activities are set out below in Stipulation II. Approved Exempt Activities (the “**Approved Exempt Activities**”).

2. The Air Force shall include in its lease of the Staff Circle Land certain terms, provisions and restrictions to prevent the Selected Privatization Offeror from removing or disturbing any historical, archeological, architectural, or other cultural artifacts, relics or remains and in the event such items are inadvertently discovered on the Staff Circle Land to further require the Selected Privatization Offeror to notify the Commander of MacDill AFB (the “**Commander**”) within forty-eight hours of such discovery and protect the site and the material from further disturbance until the Air Force has complied with the requirements of 36 C.F.R. Section 800.13(b).

3. The terms of the Lease shall apply equally to any agreements between the Air Force and the Selected Privatization Offeror with respect to the Undertaking that are subordinate to the Lease, and to all successors to the Selected Privatization Offeror’s leasehold interest under the Lease. The Air Force shall include provisions in the Lease that provide for government review and approval of any successor.

4. The Lease will prohibit any proposed improvements, modifications, upgrades, additions, or alterations of character-defining interior or exterior features of Staff Circle unless (a) such actions are permitted under this PA or (b) such actions have been coordinated by the Selected Privatization Offeror with the SHPO in accordance Stipulation III of this PA. The Signatories agree that all of the proposed improvements, modifications, additions or alterations included in the list of Approved Exempt Activities are permitted under this PA, and may be undertaken without review.

5. For the purposes of this PA, the Selected Privatization Offeror shall have access to and utilize qualified staff, on an as needed basis, for the preparation and development of rehabilitation plans to review and screen proposed projects and work requirements that affect Staff Circle. The qualified staff will act on behalf of the Selected Privatization Offeror in consultations between the Air Force and the SHPO. For the purposes of this PA, “**Qualified Staff**” is defined as an individual who meets Professional Qualifications Standards for Architectural History, Historical Architect, or other appropriate profession as defined in the Federal Register (Part II Department of Interior, National Park Service, Secretary of the Interior’s Historic Preservation Professional Qualification Standards; Notice, Federal Register, Friday Jun 20, 1997—36 C.F.R. Part 61).

C. The Air Force will respond to any request or inquiries from the SHPO or the ACHP regarding implementation and enforcement of the terms of this PA, and will provide copies of such responses to the Selected Privatization Offeror.

## II. APPROVED EXEMPT ACTIVITIES

A. The following activities are routinely found to have no adverse effect on the historic properties involved, and will be carried out in a fashion that is consistent with the Standards. The signatories hereby agree that the implementation of the following activities on Staff Circle (the “**Approved Exempt Activities**”) will require no further Section 106 review by the SHPO pursuant to Stipulation III, Project Review Process and Guidance, below.

1. Sidewalk, street, and street gutter repair.
2. Work on underground utilities, mechanical systems, fuel tanks and pumping systems which will not affect the appearance or historic character of Staff Circle.
3. Replacement or repair of wallpaper on interior walls.
4. Replacement or repair of existing acoustical tile ceilings and associated light fixtures.
5. Replacement of carpet in bedrooms and other living areas.
6. Removal of asbestos, asbestos floor tile or asbestos insulation on piping and ductwork.
7. Replacement or repair of existing light fixtures which are not original.
8. Repair of existing heating, ventilation, and air conditioning (HVAC) systems, plumping pipes and fixtures, electrical, fire suppression, and security systems, or fire detectors.
9. Energy conservation methods that are not readily visible such as interior insulation, caulking, and weatherstripping.
10. Painting (refinishing in kind) of the interior or exterior of the building.
11. Repair and replacement of gutters and downspouts to match existing ones in materials and appearance.
12. Maintenance of existing landscaping and trees and removal of dead or dying unsalvageable trees.
13. Temporary installation of facilities to provide access by disabled persons, provided these changes make no permanent modification to contributing architectural or landscape elements and are in place no more than three years.
14. Repairs to include only: temporary repairs to floor framing or flooring, temporary repair of falling ceilings, temporary bracing or shoring of structural members to prevent collapse, or temporary repairs to prevent water damage provided that such work is done without permanent damage to the building or site. These temporary repairs shall normally be in place no more than six months.
15. Maintenance, repair, replacement, line painting, and resurfacing of existing streets, roads, alleys, sidewalks, curbs, ramps, and driveways; maintenance, repair, replacement or new installation of street lights, and traffic signs.

16. Exterior scraping with non-destructive means (hand scraping and hand sanding to the next sound layer), features, and trim. Destructive surface preparation treatments, including, but not limited to water blasting, sandblasting, and chemical cleaning, are not exempt activities.
17. Repair or replacement in kind of asphalt, fiberglass shingle, asbestos, clay tile, or metal roofs; and replacement of a flat roof not visible from a public right-of-way.
18. Repair or replacement in kind of historic attic vents in original openings and installation of new ridge vents when new roofing is installed.
19. Installation of screens and storm windows provided they:
  - a. Completely fill the original window opening;
  - b. Match the meeting rail or other major divisions;
  - c. Outside storm windows must not protrude beyond the face of the building;
  - d. Interior storm windows must not cause damage to the original interior trim; and
  - e. Interior storm windows must be designed to seal so as to protect the primary window from condensation damage.
20. Installation of storm doors, if they are simple and undecorated, of a full-view type, and are anodized or painted to complement existing trim.
21. Repair or replacement of awnings.
22. Repair of porches, cornices, exterior siding, doors, balustrades, stairs, or other trim as long as any new material matches existing features in composition, design, color, finish (paint, stain, etc.) texture and other visual and physical qualities.
23. Repair of masonry foundations, walls, or chimneys by repointing using matching mortar composition, hardness, texture, color, joint width and profile, only when mortar is missing.
24. Repair of foundations and structural features of the building when the action does not require the removal or alteration of the historic architectural building fabric or the introduction of new kinds of materials not already present.
25. Installing water, natural gas, and electric meters on the side or back of the house, so that they are not visible from the street.
26. Any changes to the kitchen, bathroom, or basement spaces in historic properties, as long as such change do not detract from the significant exterior or interior historic character-defining elements in rooms of the quarters other than the kitchen, bathroom, or basement. This includes installation of new kitchen cabinets and

countertops and installation of new bathroom fixtures and tile if no window openings or doors are altered.

27. Installation of insulation in floors and attics. This exemption does not apply to side wall insulation.

28. Repair of plaster walls and ceilings by patching plaster where possible, or repairing with drywall that has a smooth finish when plaster repairs are not feasible.

29. Reuse or replace in kind trim work in its original location, where new wall and ceiling surfaces are installed or where replacement is needed.

30. Installation of new ceiling openings for pull-down attic steps; removal and sealing up of obsolete pull-down attic steps.

31. Lead-based paint and asbestos abatement activities, such as cleaning and vacuuming, that does not involve removal or alteration of structural, architectural, or decorative features. This exemption does not apply to the use of lead encapsulant paint.

32. Control of insects, rodents, or other pests when the method does not visibly impact the historic fabric of the building.

33. Installation, maintenance, repair and replacement of anti-terrorism/force protection (AT/FP) measures currently in place or determined by Air Force to be appropriate for the protection of Staff Circle and its residents, so long as such undertakings do not result in any permanent modification to significant exterior or interior character-defining elements of Staff Circle.

B. Emergency Actions:

1. In the event of a natural disaster, fire, sudden disruption of utilities service, a spill event, or other emergency that poses an immediate threat to life and property (an “**Emergency Event**”), the Selected Privatization Offeror may perform those actions necessary for the protection of Staff Circle (the “**Emergency Actions**”). Where possible, Emergency Actions will be undertaken in a manner that does not foreclose the future preservation and restoration of Staff Circe and, where possible, be undertaken with on-site monitoring by Qualified Staff. Emergency Actions must be initiated within 10 business days of the Emergency Event.

2. The Selected Privatization Offeror, shall within 3 business days of initiating any Emergency Action, notify the Air Force and the SHPO, by telephone or e-mail, of (i) the occurrence of an Emergency Event, (ii) the effect of such Emergency Event on Staff Circle, and (iii) the Emergency Action initiated (the “**Emergency Notification**”).

3. The Selected Privatization Offeror shall, within 20 business days of the date of the Emergency Notification, submit to the Air Force and SHPO a written report documenting the Emergency Actions taken and the status of Staff Circle.

### **III. PROJECT REVIEW PROCESS AND GUIDANCE**

Prior to taking any action in connection with the Undertaking:

- A. The Selected Privatization Offeror, through the use of Qualified Staff, will determine if the proposed work constitutes an Approved Exempt Activity within the meaning of this PA.
- B. If the Selected Privatization Offeror determines that the proposed work is not an Approved Exempt Activity, the Selected Privatization Offeror will submit to the SHPO, with a copy to the Air Force, the following written information: (1) the location of the proposed work; (2) a description of the proposed work, including work write-ups, plans or specifications; (3) proposed date for the start of work; and (4) a discussion of how the proposed work conforms to the Standards.
- C. If the SHPO determines that the proposed work meets the Standards, the SHPO shall provide written notification of such determination to Selected Privatization Offeror, and the Selected Privatization Offeror may proceed with the proposed work. If Selected Privatization Offeror does not receive a response from the SHPO within the 30-day period, the Selected Privatization Offeror may proceed with the proposed work.
- D. If the SHPO determines that the proposed work does not meet the Standards, the SHPO shall provide written notification of such determination to the Selected Privatization Offeror and the modifications the SHPO believes necessary to bring the proposed work into compliance with the Standards. The SHPO shall provide a copy of such determination to the Air Force
  1. The Selected Privatization Offeror shall thereafter revise its proposed work in response to the SHPO comments and resubmit the required information concerning the proposed work to the SHPO for review. The SHPO shall have 30 days from receipt of the revised documents concerning the proposed work to provide a written response to the Selected Privatization Offeror. If the SHPO approves the revised documents the Selected Privatization Offeror shall proceed with the work in accordance with the revised documents. Lack of SHPO response within 30 days shall be deemed approval.
  2. If, within the 30-day review period, the SHPO determines that the proposed work as revised by the Selected Privatization Offeror does not conform to the Standards, the differences over the proposed work will constitute a dispute within the meaning of this PA and either the Selected Privatization Offeror or the SHPO may file a written request for the Commander to resolve the dispute under Stipulation VIII, Dispute Resolution, of this PA.

#### **IV. FISCAL REQUIREMENTS AND SOURCES**

Consistent with the Anti-Deficiency Act, any requirement for the payment or obligation of funds by the Air Force in connection with this PA shall be subject to the availability of appropriated funds, and nothing herein shall be interpreted to require obligation or payment of funds in violation of the Anti-Deficiency Act, and nothing in this document is intended to bind the Air Force to commit, obligate, appropriate or spend funds in violation of the Anti-Deficiency Act and other applicable laws respecting federal funding. Air Force compliance with this PA is strictly subject to budget limitations and availability of funds. The Air Force will make a good faith effort to fully fund this Agreement through its existence.

#### **V. ANNUAL REPORTING**

The Selected Privatization Offeror shall provide a condition report on Staff Circle annually to the Air Force and SHPO. The report shall provide information on all proposed, in-progress and/or completed projects affecting Staff Circle in the subject year other than the Approved Exempt Activities. The condition report shall be provided within thirty (30) days following the completion of the prior federal fiscal year.

#### **VI. AMENDMENT**

Any of the Air Force, ACHP, SHPO or Selected Privatization Offeror may request that this PA be amended in accordance with 36 C.F.R. Part 800.6(c)(7). An amendment shall be effective on the date a copy thereof, signed by all Signatories, is filed with the ACHP.

#### **VII. TERMINATION**

A. If any of the Signatories determines that the terms of this PA cannot be or are not being carried out, such Signatory shall initiate consultations in accordance with Stipulation VI for the purpose of amending this PA as may be reasonably necessary to resolve the matter. The Selected Privatization Offeror shall be invited to join such consultations.

B. The Signatories shall have thirty (30) days from the initiation of consultations to agree upon an amendment, *provided, however,* (i) any of the Air Force, ACHP, SHPO or Selected Privatization Offeror may request such longer period of time as reasonably believed necessary to resolve the matter through consultations, and (ii) approval of a request for additional time for consultations shall not be unreasonably withheld. If the Signatories do not reach an agreement on an amendment necessary to resolve the matter under consultation or otherwise agree upon a mutual resolution of such matter within thirty (30) days from the initiation of consultations, or such longer period as may be approved by all parties to the consultation, any of the Signatories may terminate this PA upon written notice to all other parties.

C. Upon termination of this PA and prior to the Selected Privatization Offeror continuing any work on improvements, modifications, upgrades, additions, or alterations of character-defining features of Staff Circle, the Air Force shall either (i) execute a Memorandum of Agreement pursuant to 36 CFR Section 800.6, or (ii) request the comments of the ACHP in accordance with 36 CFR Section 800.7(a).

### **VIII. DISPUTE RESOLUTION**

A. If at any time the SHPO, ACHP, or the Selected Privatization Offeror objects to any action or any failure to act pursuant to this PA, they may provide notice of a dispute to the Commander. Such notice shall provide a description of the factual basis of the dispute and a request for corrective action. Upon receipt of notice of a dispute, the Commander, or his or her designated representative, shall consult with the SHPO and Selected Privatization Offeror to resolve the dispute.

B. If the Commander determines that the dispute cannot be resolved, the Commander will forward the Air Force's proposed resolution of the dispute together with all documentation relevant to the dispute to the ACHP and request that the ACHP comment on the dispute. The ACHP shall no later than 30 days after its receipt of such notice either:

1. Provide the Air Force with recommendations, which the Air Force will take into account in reaching a final decision regarding the dispute; or

2. Notify the Air Force that it will comment pursuant to 36 C.F.R. Section 800.7(c) and proceed to comment. The Air Force will take into account any ACHP comment provided in response to such a request, with reference to the subject of the dispute, and will issue a decision on the matter.

3. If the ACHP does not provide a response to the Air Force within 30 days, it will be deemed to concur in the Air Force's proposed resolution of the dispute, and the Air Force's responsibilities under Section 106 of the NHPA are fulfilled.

C. The Air Force and/or Selected Privatization Offeror's responsibility to carry out all actions under this PA that are not the subject of a dispute will remain unchanged.

### **IX. CONTINUATION OF CONSULTATIONS**

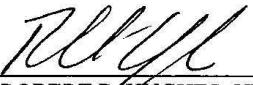
The Signatories further agree that, subsequent to the date of the Air Force's conveyance of Staff Circle to the Selected Privatization Offeror, the Air Force, SHPO, ACHP, and Selected Privatization Offeror will continue consultations in accordance with Section 106 of the NHPA and its implementing regulations found at 36 C.F.R. Part 800 concerning options for the future disposition of Staff Circle.

By the execution and implementation of this PA the Air Force has taken into account the effects of this Undertaking on Staff Circle and afforded the ACHP an opportunity to consult.

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SIGNATURE PAGES FOLLOW

**SIGNATORIES:**

**UNITED STATES DEPARTMENT OF THE AIR FORCE:**

By:  Date: 24 July 07  
ROBERT B. HUGHES, YF-03, DAF  
Director, 6<sup>th</sup> Civil Engineer Squadron

**THE OFFICE OF THE FLORIDA STATE HISTORIC PRESERVATION  
OFFICER:**

By: Fredrick P. Gaske Date: 7/30/07  
FREDERICK P. GASKE  
Director and State Historic Preservation Officer  
State of Florida

**ADVISORY COUNCIL ON HISTORIC PRESERVATION:**

By: John M. Fowler Date: 8/9/07

JOHN M. FOWLER  
Executive Director

**CONCUR: AMC EAST LLC**

AMC East LLC has reviewed the above terms and stipulations of this Programmatic Agreement. We acknowledge that the terms and stipulations will become a part of the Lease and will become binding on AMC East Communities, LLC, a limited liability company that AMC East LLC and the Air Force contemplate forming as the Selected Privatization Offeror as the tenant thereunder upon execution of such Lease.

AMC East LLC, a Delaware limited liability company

By: Clark Realty Capital, L.L.C., its Manager

By: WCJ *kc*  
Title Manager

By: J. James *AC*  
Title Managing Director

**EXHIBIT A**

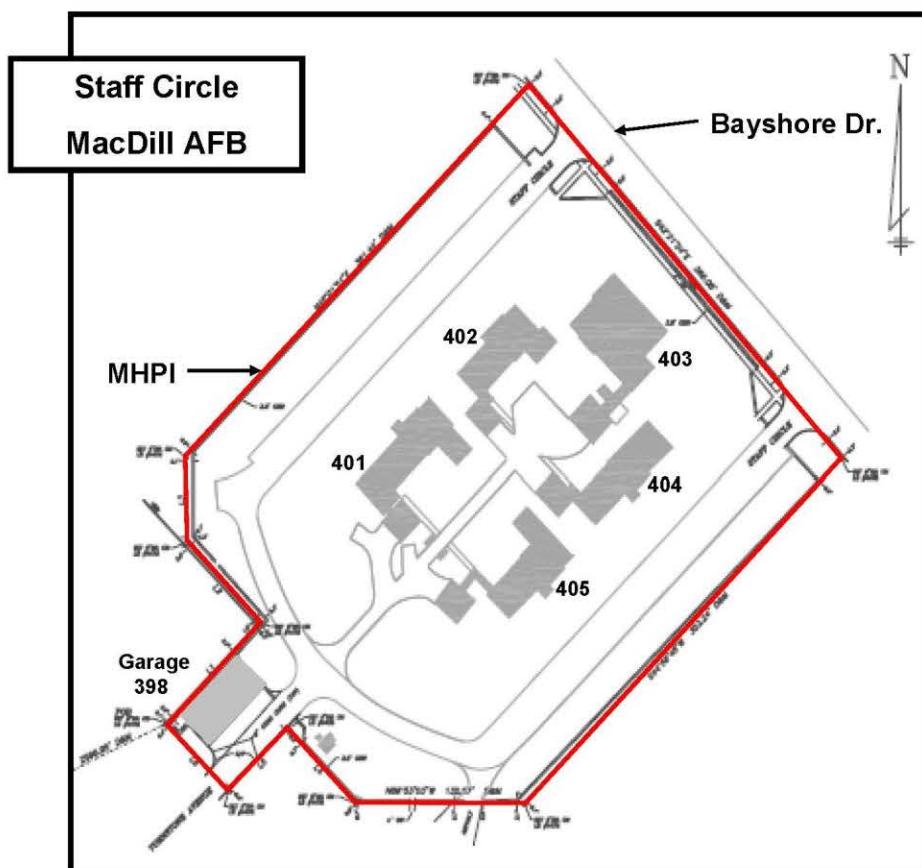
**STAFF CIRCLE**

**EXHIBIT A TO THE PROGRAMMATIC AGREEMENT**

**DESCRIPTION OF STAFF CIRCLE**

**Staff Circle (General Officers' Quarters) is identified as that property within the boundaries established below on the attached metes and bounds survey.**

<b><u>Bldg No.</u></b>	<b><u>Street Address</u></b>	<b><u>Year Built</u></b>
Bldg 401	2106 Staff Circle	1941
Bldg 402	2112 Staff Circle	1941
Bldg 403	7706 Bayshore Drive	1941
Bldg 404	2136 Staff Circle	1941
Bldg 405	2132 Staff Circle	1941
Bldg 398	Staff Loop	1941



*PLAT OF SURVEY*

*DESCRIPTION*

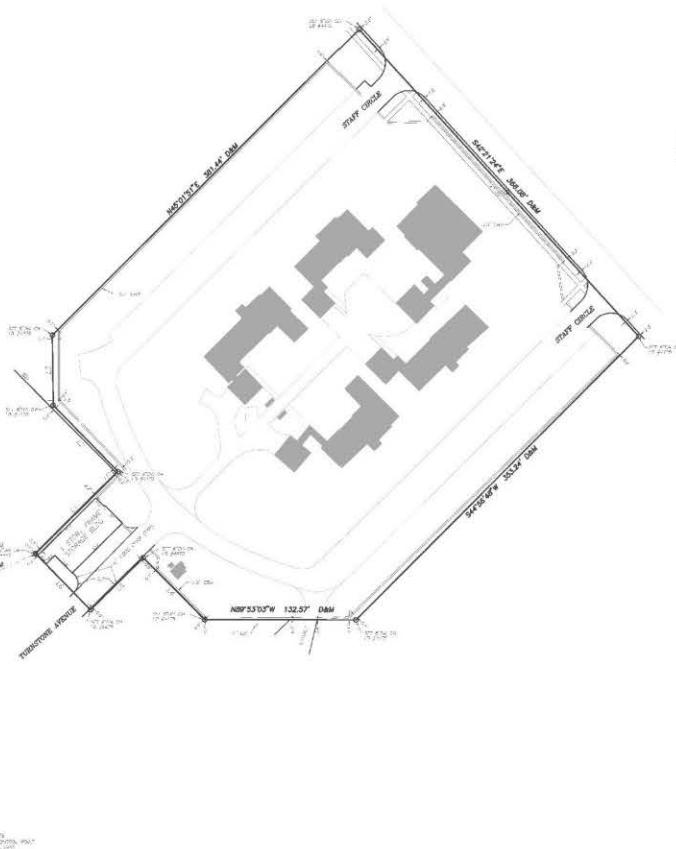
A PORTION OF MACDILL AIR FORCE BASE, LYING IN SECTIONS 22 AND 23, TOWNSHIP 30 SOUTH, RANGE 18 EAST, HILLSBOROUGH COUNTY, FLORIDA, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

CONVENIENCE AT THE MACCALL AIR FORCE STATION CONTROL POINT DESIGNATED  
BM-1282 1986RUR THENCE N02°15'44"E A LINE USED AS THE BASIS OF  
BEARING FOR THIS LEGAL DESCRIPTION, A DISTANCE OF 410.44 FEET TO THE MACCALL  
AIR FORCE STATION CONTROL POINT, BOUNDARY MARKER NO. 25058, 1986, THENCE N05°15'11"E A DISTANCE OF  
1,000.00 FEET, THENCE S05°15'11"E A DISTANCE OF 1,000.00 FEET, THENCE N05°15'11"E A DISTANCE OF 102.64  
FEET, THENCE NAD 27.46' WEST A DISTANCE OF 81.81 FEET, THENCE N00°41'15"W A DISTANCE OF  
1,462.76 FEET, THENCE N40°51'51"E A DISTANCE OF 381.44 FEET, THENCE  
S49°27'11"E A DISTANCE OF 346.00 FEET, THENCE S49°27'11"E A DISTANCE OF 353.24  
FEET, THENCE S49°27'11"E A DISTANCE OF 353.24 FEET, THENCE S49°27'11"E A DISTANCE OF  
75.82 FEET, THENCE S45°22'46"E A DISTANCE OF 45.16 FEET, THENCE  
N44°22'27"N A DISTANCE OF 45.29 FEET TO THE POINT OF BEGINNING.

CONTAINS 160,873 SQUARE FEET OR 3.693 ACRES MORE OR LESS.

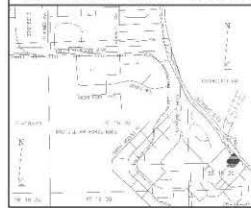
**NOTES:**

1. BEARING STRUCTURES BASED ON BEARING LINE FROM MACCIL AFB GROUND CONTROL POINT (LML-128) IN 1989 TO MACCIL, 75081, 1989 BEARING: N07°15'44"E W095°45'44"S.
2. THIS SURVEY REFLECTS ONLY MATTERS OF RECORD AS PROVIDED BY THE CLIENT OR CLIENTS REPRESENTATIVE.
3. THIS SURVEY WAS MADE ON THE GROUND. THE UNDERGROUND UTILITIES SHOWN ARE NOT LOCATED FROM EXISTING SURVEYS, MAPS, PLANS, OR EXISTING UTILITIES. THE SURVEYOR CANNOT GUARANTEE THAT THE UNDERGROUND UTILITIES SHOWN COM普SE ALL SUCH UTILITIES IN THE AREA, EITHER IN SERVICE OR ABANDONED. THE SURVEYOR IS NOT RESPONSIBLE FOR THE LOCATION OF UNDERGROUND UTILITIES SHOWN IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR HAS LOCATED THEM AS CLOSE AS POSSIBLE. THE SURVEYOR IS NOT RESPONSIBLE FOR THE LOCATION OF UNDERGROUND UTILITIES SHOWN IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR HAS LOCATED THEM AS CLOSE AS POSSIBLE. THE SURVEYOR HAS NOT PHYSICALLY LOCATED THE UNDERGROUND UTILITIES SHOWN IN THE EXACT LOCATION INDICATED ALTHOUGH THE SURVEYOR HAS LOCATED THEM AS CLOSE AS POSSIBLE.
4. THIS SURVEY IS IN A FLOODED POND AREA. IT IS AN AREA OF 100-YEAR FLOOD, BASE FLOOD ELEVATIONS AND FLOOD HAZARD FACTORS NOT DETERMINED. BASED ON FLOOD INSURANCE RATE MAP, PANEL NO. 120125 0476 C, FIRM 120125.
5. ACCORDING TO FLORIDA STATUTES, CHAPTER 472 PROHIBITS A LAND SURVEYOR SHALL NOT APPLY HIS SEAL OR NAME TO ANY PLAN OR DRAWING WHICH DEPICTS THE PRESENCE OF AN UNPERMITTED CONSTRUCTION ACTIVITIES OR THE EXPRESSION OF SPURIOUS THEREIN. THEREFORE, WE ARE UNABLE TO CERTIFY AS TO THE EXISTENCE OF UNPERMITTED CONSTRUCTION ACTIVITIES OR THE DETERMINATION OF VIOLATIONS THEREIN.
6. THE SURVEY MADE WITHOUT BENEFIT OF COMMITMENT FOR TITLE.



THE BOSTON ASSISTANT TEACHERS' UNION  
MANUFACTURED AND DISTRIBUTED BY THE  
FLORIDA BOARD OF EXAMINERS, TALLAHASSEE,  
FLORIDA, 1920-1921.

VICINITY MAP N.T.S.



GRAPHIC SCALE

15 - 49

1962-1964  
1965-1967  
1968-1970  
1971-1973  
1974-1976  
1977-1979

**Current BOUNDARY SURVEY DATE:** 12-20-2000  
per Florida Statutes 61G17-6.003 2d

## *BOUNDARY SURVEY*

SCALE: 1" = 40'	CF# F-STAFF-CIRCLE-RECONVENTION	JGB #500463
FIELD DATE: 12/20/06		DRAWN BY: JLS
PREPARED FOR:		THE BENHAM COMPANIES, INC.
LOCATION: CHEVRON PARK MAC DILL AFB, TAMPA, FLORIDA	FILE NUMBER: MACDILL AFB	

## **APPENDIX E**

### **REQUIRED AND DESIRED FEATURES FOR PRIVATIZED MACDILL AFB MFH UNITS**

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## Appendix E

### Required and Desired Features for Privatized MacDill AFB MFH Units

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#### **New Housing Construction**

Design and construction of all new housing units shall provide the following:

**General Requirements.** Designs and construction shall comply with all applicable codes, standards, and regulations; meet basic requirements described herein; and shall be appropriate to the climate and lifestyle of the area. Designs shall provide innovative design and construction techniques conforming to local market (private-sector) standards for quality housing. The local market area is defined as being within a 60-minute or 20-mile commute (whichever is greater) during peak driving conditions. Best professional judgment shall be exercised in choice of style, type, design, configuration, functional solutions, and materials. Each housing area shall have an identification sign at the entrance of each neighborhood.

**Floor Plans.** Floor plans shall incorporate orderly arrangement of functions, minimize circulation, and maximize open spaces. Designs shall provide inviting entrances, indoor/outdoor integration, and pleasing interior appearance. Kitchens shall have a modern, well-organized work area with quality fixtures, appliances, and finishes. Layout of bathrooms shall follow modern planning techniques and utilize quality fixtures. Maximized storage space is an essential element due to the mobility of Air Force families. Interior storage shall include conveniently located and adequately sized cabinets; and coat, linen, pantry, bulk storage, and clothes closets. Exterior storage shall include maximized space for bikes and mowers.

**Handicap Accessibility.** At least five percent of the total end-state number of housing units shall be compliant with the Americans with Disabilities Act (ADA), meaning either handicap accessible, or “readily adaptable” to be accessible, including entrance ramps, bathroom grab bars, and chair lifts. “Accessible” means the units can be approached, entered, and used by physically handicapped people. Modifications shall be accomplished on a high-priority basis when a requirement is identified. The housing units shall comply with the accessibility standards set forth in all applicable Federal, state, or local laws pertaining to accessibility, together with the Fair Housing Act (FHA) and the relevant provisions of the Uniform Federal Accessibility Standards (UFAS) dealing with accessibility. In complying with said authorities, the private developer (the Project Owner [PO]) shall abide by those provisions that are the most stringent. Should the PO choose to make the premises “readily adaptable” then the PO shall bear the cost of making the housing units accessible at its sole expense.

**Elevations.** Elevation designs shall provide pleasing and interesting appearances, comparable to other quality residential developments currently being built and marketed in the area. The elevations shall be inviting with modulated facades, rooflines, and massing to provide interest. Materials and colors shall be varied to break up facades of larger structures and prevent excessive uniformity among the smaller units.

**Energy Efficiency.** Design, materials, equipment, and construction methods shall reduce energy and water consumption to current Energy Star criteria. Design features shall include optimizing glass locations and areas; optimizing insulation in exterior walls, ceilings, and between adjoining units; weatherstripping throughout; and minimizing duct leakage. Attention to construction details, exterior fenestration materials, and passive solar energy systems shall be employed wherever possible.

**Materials, Equipment, and Finishes.** Materials, equipment, and finishes shall be durable, low maintenance, and functional. Choice of finishes shall be aesthetically pleasing with a richness of texture

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and detailing. Basic quality features include copper potable water plumbing, copper electrical wiring, dual-pane insulated windows and patio doors, storm doors with screens at main entrances, and overhead lighting in bedrooms and large closets.

**Attached Units.** Stacked units are not acceptable. No more than six dwelling units per building shall be constructed. Units shall include privacy features including a Sound Transmission Class (STC) rating of 55 between living units.

**Parking and Roads.** All units shall have provisions for parking two vehicles off-street. Additional parking spaces shall be provided throughout the neighborhoods for guest parking at a rate of one parking space for every two units except for General Officers Quarters (GOQ), Senior Officers Quarters (SOQ), and Prestige units which shall have nearby guest parking available for additional vehicles per unit. All attached units shall have a one-car garage with an automatic door opener. All single-family detached units shall have a two-car garage with an automatic door opener. All roads and turns shall be large enough to allow moving vans, fire trucks, etc. to adequately move around the community as needed, and all roads and parking areas shall have adequate snow stacking capacity and storm drainage.

**Privacy.** All units shall have patios with screened fencing or landscaping to provide a private area in the rear of each unit.

**Window Treatments.** The PO shall provide window coverings (such as mini-blinds) in all units.

**Floor Finishes.** All units shall have high quality, durable, low-maintenance hard finish flooring in kitchen, informal dining area, wet areas, and high traffic areas. All units shall have carpet in bedrooms and other living areas.

**Appliances.** All appliances shall be energy-efficient, new, and from an established manufacturer. Each housing unit shall be provided with the following items:

- Combination refrigerator/freezer (minimum 18 cubic feet [ $\text{ft}^3$ ] for 2-bedroom units and 21  $\text{ft}^3$  for 3-and 4-bedroom units).
- Built-in two-level dishwasher.
- Four-burner stove with self-cleaning oven, view window, and vent hood.
- Built-in microwave oven.
- Garbage disposal.
- Carbon monoxide detector.
- Interior floor space and connections shall be provided for a full size washer and dryer (electric and natural gas connections).
- Interior floor space and connections for a full-size freezer.

**Equipment.** All units shall be provided with high-energy efficient heating and ventilation. Central air conditioning systems shall be new and from an established manufacturer.

**Telephone and Cable.** All residential units shall be prewired for cable television (CATV) and telephone jacks. Telephone systems shall be in accordance with those standards set forth by the local telephone company. Each bedroom, living area, and kitchen shall have one phone jack that can accommodate two

lines and one cable outlet. The coordination of equipment locations and final design of utilities and services is subject to review by the government.

**Mailboxes.** The PO shall provide cluster mailboxes for all units in accordance with U.S. Postal Service regulations. Single mailboxes for the GOQ, SOQ, and Prestige Family Housing units shall be provided.

**Utilities.** All new utility systems shall be designed and constructed by the PO. The PO shall coordinate all tie-in locations with the government. The PO shall provide for the installation of all utility meters. All newly constructed units must have individual electric and natural gas meters. Utilities shall be connected to a utility provider by the PO by the end of the Transition Period.

**Termite Treatment.** New foundations shall have soil treated for termites in accordance with state law, to include a certificate of termite treatment by the provider.

**Exterior Features.** Easily accessible hose bibs and exterior electrical outlets on the front and rear of the house shall be provided. Hidden trash container storage area shall be provided.

## **Specific Requirements**

In addition to the above General Requirements, proposed designs and construction shall provide the following:

**Prestige Family Housing (E-9).** Prestige housing may be detached single-family or attached multifamily-type housing. Any Prestige Family Housing units constructed at MacDill AFB shall be completed and ready for occupancy prior to the demolition of the existing Prestige Family Housing units. Prestige Housing shall meet at a minimum the following standards:

- A geographically separate location in base housing
- Garages with automatic door openers and storage space
- Additional off-street parking
- Larger, enhanced patios with privacy screening
- Central air conditioning in all habitable areas
- Carpeted and/or upgraded floor treatments
- Ceiling fans and upgraded mini-blinds or other window treatments
- Upgraded kitchens and appliances
- At least two full bathrooms

Prestige Housing for all designated key and essential E-9 positions shall have 4-bedrooms. Newly constructed units to be designated for the Command Chiefs, shall be single-family detached units, at least 10 percent larger than the largest E-9 unit.

**General Officers Quarters (O-7+).** Any housing and associated improvements for General Officers (O-7+) shall be designed and constructed as single-family detached units. The design of any GOQs that are constructed at MacDill AFB shall be in conjunction with local architectural and climatic conditions. If any new GOQs are constructed, those units shall be completed and ready for occupancy prior to the demolition of the existing GOQs. Refer to **Table E-1** for the square footage requirements for GOQ units.

**Table E-1. GOQ and SOQ Housing Requirements for New Construction**

	Four-bedroom	
	O-6	O-7 to O-10
Minimum Gross (ft <sup>2</sup> )	2,110	2,600
Programming Benchmark (ft <sup>2</sup> )	2,520	3,330
Maximum Gross (ft <sup>2</sup> )	2,920	4,060

Notes:

All interior spaces within the exterior faces of exterior walls of housing units with the following areas of exclusion: carports and garages, exterior bulk storage (detached), trash enclosures, porches, terraces, patios, balconies, and entrance stoops.

Two-car garages would be provided for detached homes.

The PO shall provide quality finishes for the floor, architectural millwork, wall base, walls, ceilings, window treatments and coverings, light fixtures, entryway, staircases (if applicable), cabinetry, countertops, and appliances for each habitable area. The PO shall also use quality roof materials, exterior wall finishes, exterior window and door finishes, and upscale landscaping.

In addition to standard residential telephone service, the PO shall supply and install a minimum of two telephone lines, two CATV lines, one fiber optic line, and one Unshielded Twisted Pair (UTP) where available in the local community. The PO shall also supply associated terminals and distribution boxes to be designated only for government use for each unit. The location within the units shall be the same as for the regular telephone boxes. The government shall own and maintain the terminals, cable, and the distribution box after installation. Telecommunication standard 568A shall apply to dedicated government cable.

**Senior Officers Quarters (O-6).** Any housing and associated improvements for Senior Officers (O-6) shall be designed and constructed as single-family detached units. If any new SOQs are constructed, those units shall be completed and ready for occupancy prior to the demolition of the existing SOQs. In addition to standard residential telephone service, the PO shall supply and install a minimum of two telephone lines, two CATV lines, one fiber optic line, and one UTP where available in the local community. The PO shall also supply associated terminals and distribution boxes to be designated only for government use for each unit. The location within the units shall be the same as for the regular telephone boxes. The government shall own and maintain the terminals, cable, and the distribution box after installation. Telecommunication standard 568A shall apply to dedicated government cable. The SOQ designs shall provide ample area for entertaining dignitaries and officials. Refer to **Table E-1** for the square footage requirements for SOQs.

**Enlisted and Non-Senior Officer Housing (E-1 to E-8 and O-1 to O-5).** Any design and construction of Enlisted and Non-Senior Officer Housing units and associated improvements shall be a mixture of multiplex and detached single-family housing. Construction shall be complete within five years of project closing. **Table E-2** shows the type units per grade, broken down by square footage according to the minimum, programming benchmark, and maximum size.

**Table E-2. Enlisted and Non-Senior Officer Housing Requirements for New Construction**

	Two-bedroom Modified		Three-bedroom			Four-bedroom		
	E1 to E6	E7 to E8 and O1 to O3	E1 to E6	E7 to E8 and O1 to O3	E9 and O4 to O5	E1 to E6	E7 to E8 and O1 to O3	E9 and O4 to O5
Minimum Gross (ft <sup>2</sup> )	1,330	1,420	1,490	1,670	1,740	1,670	1,800	1,920
Programming Benchmark Gross (ft <sup>2</sup> )	1,480	1,670	1,630	1,860	2,020	1,950	2,150	2,310
Maximum Gross (ft <sup>2</sup> )	1,630	1,920	1,760	2,050	2,300	2,220	2,500	2,700

Notes:

All interior spaces within the exterior faces of exterior walls and center line of party walls (in multiplex units) of housing units, with the following areas of exclusion: garages, exterior bulk storage (detached), trash enclosures, porches, terraces, patios, balconies, and entrance stoops.

Two-car garages would be provided for detached homes and one-car garages for multiplex family units.

**Two-Bedroom Modified Units.** The PO shall design and construct two-bedroom modified units with an additional room between 110–120 net square feet to provide flexible living space for residents and would be designed to serve as a family room, bedroom, den, or playroom. The additional room shall include a closet. The two-bedroom modified design shall also include an additional three-quarters-size bathroom between 45 and 50 net square feet. The three-quarters-bath shall include, at a minimum, a vanity sink, toilet, and shower.

### Desired New Housing Construction Features

The desired features listed below are in descending order of importance.

- Additional square footage above the programming benchmark
- More single-family units in lieu of multiplex units
- Reduced number of dwelling units per building
- Screened-in rear patios
- Three-bedroom units in lieu of two-bedroom units
- Two-car garage in all units with automatic door openers
- Walk-in clothes closet
- Double sinks in bathrooms
- Larger master bedroom suites
- Laundry/Mudroom with utility sink
- More kitchen storage space (pantry and drawers)
- Overhead lighting in all rooms, switched at the entry door

- Additional bathrooms above minimum requirements
- Upgraded interior finishes
- Ceiling fans with light fixtures
- Access to front and rear of unit through house and garage
- Programmable thermostats
- Additional interior storage including walk-in closets and closet rack system
- Covered patios
- Ground level decks
- Additional exterior storage space
- Door chime on second floor and door bell at back door
- Enhanced security (including motion lights)
- Wiring all rooms to accommodate home communications system (hi-speed internet, CATV, and telephone)
- Up-to-date internet and communications technology and wiring
- Increased acoustical separations above minimums (provide better sound-proofing between units)
- Fenced rear yards (non-chain link)
- Built-in microwave ovens
- Exceed five percent of homes ADA compliance rate

**APPENDIX F**  
**COASTAL ZONE CONSISTENCY STATEMENT**

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## **Appendix F**

### **Coastal Zone Consistency Statement**

This consistency statement will examine the potential environmental consequences of the Proposed Action as described in this Environmental Assessment (EA) of the Privatization of Military Family Housing (MFH) at MacDill Air Force Base, Florida, and ascertain the extent to which the consequences of the Proposed Action are consistent with the objectives of Florida Coastal Management Program (FCMP).

Of the Florida Statutory Authorities included in the FCMP, impacts in the following areas are addressed in the EA: beach and shore preservation (Chapter 161), historic preservation (Chapter 267), economic development and tourism (Chapter 288), public transportation (Chapters 334 and 339), saltwater living resources (Chapter 370), living land and freshwater resource (Chapter 372), water resources (Chapter 373), environmental control (Chapter 403), and soil and water conservation (Chapter 582). This consistency statement discusses how the proposed options may meet the FCMP objectives.

#### **CONSISTENCY DETERMINATION**

##### **Chapter 161: Beach and Shore Preservation**

No disturbances to the installation's canals are foreseen under the Proposed Action or Alternative Actions.

##### **Chapter 267: Historic Preservation**

The Air Force and the Florida State Historic Preservation Officer (SHPO) have determined that the buildings that comprise the Staff Circle MFH parcel are eligible for listing on the National Register of Historic Places as an historic district (referred to as the Staff Circle General Officers' Quarters). The Air Force will satisfy its responsibilities under Section 106 of the National Historic Preservation Act regarding Staff Circle through the NEPA process, as provided for in 36 CFR 800.8(c). A Programmatic Agreement that satisfies 36 CFR 800.5 has been executed to provide adequate and legally enforceable restrictions to ensure the preservation of the property's historic significance after transfer out of Federal ownership or control.

##### **Chapter 288: Economic Development and Tourism**

The EA presents the new employment impact and net income impact of the Proposed Action and Alternative Actions. The alternatives would not have significant adverse effects on any key Florida industries or economic diversification efforts.

The EA quantitatively addresses potential impacts on transportation systems and planning and implementation of transportation improvements.

##### **Chapter 372: Saltwater Living Resources**

The EA addresses potential impacts on local water bodies. Water quality impacts were surveyed for existing conditions at the Proposed Action and Alternative Actions. Results indicate that no significant long-term impacts would result from the Proposed Action or Alternative Actions.

### **Chapter 372: Living Land and Freshwater Resources**

Threatened and endangered species, major plant communities, conservation of native habitat, and mitigation of potential impacts on the resources are addressed in the EA. The Proposed Action and alternatives would not result in permanent disturbance to native habitat and should not impact threatened or endangered species.

### **Chapter 373: Water Resources**

There would be no impacts on surface water or groundwater quality under the Proposed Action or alternatives as discussed in the EA.

### **Chapter 403: Environmental Control**

The EA addresses the issues of conservation and protection of environmentally sensitive living resources; protection of groundwater and surface water quality and quantity; potable water supply; protection of air quality; minimization of adverse hydrogeologic impacts; protection of endangered or threatened species; solid, sanitary, and hazardous waste disposal; and protection of floodplains and wetlands. Where impacts to these resources can be identified, possible mitigation measures are suggested.

### **Chapter 582: Soil and Water Conservation**

The EA addresses the potential of the Proposed Action and Alternative Actions to disturb soil and presents possible measures to prevent or minimize soil erosion. Impacts on groundwater and surface water resources also are discussed in the EA.

## **CONCLUSION**

The Air Force finds that the conceptual Proposed Action and Alternative Actions presented in the EA are consistent with the FCMP.

**APPENDIX G**  
**AIR QUALITY EMISSIONS CALCULATIONS SPREADSHEETS**

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<b>Summary</b>	Summarizes total emissions by calendar year. Page G-1
<b>Combustion</b>	Estimates emissions from non-road equipment exhaust as well as painting. Pages G-2, G-3, G-4, and G-5
<b>Fugitive</b>	Estimates fine particulate emissions from earthmoving, vehicle traffic, and windblown dust Pages G-6, G-7, and G-8
<b>Grading</b>	Estimates the number of days of site preparation, to be used for estimating heavy equipment exhaust and earthmoving dust emissions Page G-9
<b>AQCR Tier Report</b>	Summarizes total emissions for the West Central Florida Intrastate AQCR Tier Reports for 2001, to be used to compare project to regional emissions. Page G-10

		<b>NO<sub>x</sub> (ton)</b>	<b>VOC (ton)</b>	<b>CO (ton)</b>	<b>SO<sub>2</sub> (ton)</b>	<b>PM<sub>10</sub> (ton)</b>
CY2007 - CY 2012	Construction Combustion	41.78	10.67	80.34	1.75	2.08
	Construction Fugitive Dust					55.92
	<b>TOTAL CY2007 - CY 2012</b>	<b>41.78</b>	<b>10.67</b>	<b>80.34</b>	<b>1.75</b>	<b>58.00</b>

Emissions shown above are only for one calendar year. Emissions would be the same for each calendar year.

Since future year budgets were not readily available, actual 2001 air emissions inventories for the counties were used as an approximation of the regional inventory. Because the Proposed Action is several orders of magnitude below significance, the conclusion would be the same, regardless of whether future year budget data set were used.

#### WCFIAQCR Tier Report

Year	<b>Point and Area Sources Combined</b>				
	<b>NO<sub>x</sub> (tpy)</b>	<b>VOC (tpy)</b>	<b>CO (tpy)</b>	<b>SO<sub>2</sub> (tpy)</b>	<b>PM<sub>10</sub> (tpy)</b>
2001	275,242	193,240	1,301,241	319,076	126,018

Source: USEPA-AirData NET Tier Report (<http://www.epa.gov/air/data/geosel.html>). Site visited on 25 July 2006.

#### Determination Significance (Significance Threshold = 10%)

Minimum - 2001 Proposed Action Emissions Proposed Action %	<b>Point and Area Sources Combined</b>				
	<b>NO<sub>x</sub> (tpy)</b>	<b>VOC (tpy)</b>	<b>CO (tpy)</b>	<b>SO<sub>2</sub> (tpy)</b>	<b>PM<sub>10</sub> (tpy)</b>
	275,242	193,240	1,301,241	319,076	126,018
	41.785	10.666	80.342	1.751	58.001
	<b>0.015%</b>	<b>0.006%</b>	<b>0.006%</b>	<b>0.001%</b>	<b>0.046%</b>

**Construction Combustion Emissions for Proposed Action**Combustion Emissions of VOC, NO<sub>x</sub>, SO<sub>2</sub>, CO and PM<sub>10</sub> Due to Construction

Includes:

1 Construct Military Family Housing Units	639,823 ft <sup>2</sup>	14.688	acres	(assumed average 1,933 ft <sup>2</sup> for each home built)
2 Demolish Military Family Housing Units	760,500 ft <sup>2</sup>	17.459	acres	(assumed average 1,500 ft <sup>2</sup> for each home demolished)
3 Pave New Military Family Housing Driveways	620,625 ft <sup>2</sup>	14.248	acres	(assumed average 1,875 ft <sup>2</sup> for each driveway)
Total Building Construction Area:	639,823 ft <sup>2</sup>	(1)		
Total Demolished Area:	760,500 ft <sup>2</sup>	(2)		
Total Paved Area:	620,625 ft <sup>2</sup>	(3)		
Total Disturbed Area:	2,020,948 ft <sup>2</sup>	(1 - 3)		
Construction Duration:	1.0 year(s)			
Annual Construction Activity:	230 days/yr			(Project will last for 1 year (230 working days))

The project will be conducted over a 6 year period starting in Calendar Year (CY) 2007 and ending on CY 2012

All demolition estimates were based off gross square footage and were divided over a 6 year period.

All construction estimates were based off averaging all benchmark square footages provided and were divided over a 6 year period.

Private developer would demolish 507 housing units.

Private developer would construct 331 new housing units.

Each new home would require a driveway. All driveways would be 1,875 ft<sup>2</sup> (25 ft x 75 ft).

## Emission Factors Used for Construction Equipment

Reference: USEPA Compilation of Air Pollutants Emissions Factors and Mobile6, [www.epa.gov/otaq](http://www.epa.gov/otaq) 2004

Emission factors are taken from Table 3-2. Assumptions regarding the type and number of equipment are from Table 3-1 unless otherwise noted.

### Grading

Equipment	No. Reqd. <sup>a</sup> per 10 acres	NO <sub>x</sub> (lb/day)	VOC <sup>b</sup> (lb/day)	CO (lb/day)	SO <sub>2</sub> <sup>c</sup>	PM <sub>10</sub> (lb/day)
Bulldozer	1	29.40	3.66	25.09	0.59	1.17
Motor Grader	1	10.22	1.76	14.98	0.20	0.28
Water Truck	1	20.89	3.60	30.62	0.42	0.58
Total per 10 acres of activity	3	60.51	9.02	70.69	1.21	2.03

### Paving

Equipment	No. Reqd. <sup>a</sup> per 10 acres	NO <sub>x</sub> (lb/day)	VOC <sup>b</sup> (lb/day)	CO (lb/day)	SO <sub>2</sub> <sup>c</sup>	PM <sub>10</sub> (lb/day)
Paver	1	7.93	1.37	11.62	0.16	0.22
Roller	1	5.01	0.86	7.34	0.10	0.14
Total per 10 acres of activity	2	12.94	2.23	18.96	0.26	0.36

### Demolition

Equipment	No. Reqd. <sup>a</sup> per 10 acres	NO <sub>x</sub> (lb/day)	VOC <sup>b</sup> (lb/day)	CO (lb/day)	SO <sub>2</sub> <sup>c</sup>	PM <sub>10</sub> (lb/day)
Loader	1	7.86	1.35	11.52	0.16	0.22
Haul Truck	1	20.89	3.60	30.62	0.42	0.58
Total per 10 acres of activity	2	28.75	4.95	42.14	0.58	0.80

### Building Construction

Equipment <sup>d</sup>	No. Reqd. <sup>a</sup> per 10 acres	NO <sub>x</sub> (lb/day)	VOC <sup>b</sup> (lb/day)	CO (lb/day)	SO <sub>2</sub> <sup>c</sup>	PM <sub>10</sub> (lb/day)
<b>Stationary</b>						
Generator Set	1	11.83	1.47	10.09	0.24	0.47
Industrial Saw	1	17.02	2.12	14.52	0.34	0.68
Welder	1	4.48	0.56	3.83	0.09	0.18
<b>Mobile (non-road)</b>						
Truck	1	20.89	3.60	30.62	0.84	0.58
Forklift	1	4.57	0.79	6.70	0.18	0.13
Crane	1	8.37	1.44	12.27	0.33	0.23
Total per 10 acres of activity	6	67.16	9.98	78.03	2.02	2.27

Note: Footnotes for tables are on following page

**Architectural Coatings**

Equipment	No. Reqd. <sup>a</sup> per 10 acres	NO <sub>x</sub> (lb/day)	VOC <sup>b</sup> (lb/day)	CO (lb/day)	SO <sub>2</sub> <sup>c</sup>	PM <sub>10</sub> (lb/day)
Air Compressor	1	6.83	0.85	5.82	0.14	0.27
Total per 10 acres of activity	1	6.83	0.85	5.82	0.14	0.27

a) A default equipment fleet for each activity, assuming 10 acres of that activity, (e.g., 10 acres of grading, 10 acres of paving, etc.). The default equipment fleet is increased for each 10 acre increment in the size of the construction project. That is, a 26 acre project would round to 30 acres and the fleet size would be three times the default fleet for a 10 acre project.

b) For the purposes of this worksheet ROG = VOC.

c) For this worksheet, SO<sub>2</sub> emissions have been estimated based on approximate fuel use rate for diesel equipment and the assumption of 500 ppm sulfur diesel fuel. For the average of the equipment fleet, the resulting SO<sub>2</sub> factor was found to be approximately 0.04 times the NOx emission factor for the mobile equipment (based upon 2002 USAF IERA "Air Emissions Inventory Guidance") and 0.02 times the NOx emission factor for all other equipment (based on AP-42, Table 3.4-1)

**PROJECT-SPECIFIC EMISSION FACTOR SUMMARY**

Source	Equipment Multiplier*	SMAQMD Emission Factors (lb/day)				
		NO <sub>x</sub>	VOC	CO	SO <sub>2</sub> **	PM <sub>10</sub>
Grading Equipment	5	1403.668	209.240	1639.817	28.073	47.091
Paving Equipment	2	36.873	6.354	54.027	0.737	1.026
Demolition Equipment	2	100.387	17.284	147.142	2.008	2.793
Building Construction	2	197.293	58.636	458.452	11.867	13.337
Air Compressor for Architectural Coating	2	20.064	4.994	34.194	0.803	1.586
Architectural Coating**		65.191				

\*The equipment multiplier is an integer that represents units of 10 acres for purposes of estimating the number of equipment required for the project

\*\*Emission factor is from the evaporation of solvents during painting

Example: Emission Factor for Grading Equipment NOx = (Total Grading NOx per 10 ac\*((total disturbed area/43560)/10))\*(Equipment Multiplier)

**Summary of Input Parameters**

	Total Area (ft <sup>2</sup> )	Total Area (acres)	Total Days
Grading:	2,020,948	46.39	2
Paving:	620,625	14.25	34
Demolition:	760,500	17.46	336
Building Construction:	639,823	14.69	230
Architectural Coating	639,823	14.69	20

(from "Proposed Action Grading" worksheet)

(per "Air Quality of Thresholds of Significance", 1994 version)

NOTE: The 'Total Days' estimate for paving is calculated by dividing the total number of acres by 0.21 acres/day, which is a factor derived from the 2005 MEANS Heavy Construction Cost Data, 19th Edition, for 'Asphaltic Concrete Pavement, Lots and Driveways - 6" stone base', which provides an estimate of square feet paved per day. There is also an estimate for 'Plain Cement Concrete Pavement', however the estimate for asphalt is used because it is more conservative. The 'Total Days' estimate for demolition is calculated by dividing the total number of acres by 0.02 acres/day, which is a factor also derived from the 2005 MEANS reference. This is calculated by averaging the demolition estimates from 'Building Demolition - Small Buildings, Concrete', assuming a height of 30 feet for a two-story building; from 'Building Footings and Foundations Demolition - 6" Thick, Plain Concrete'; and from 'Demolish, Remove Pavement and Curb - Concrete to 6" thick, rod reinforced'. Paving is double-weighted since projects typically involve more paving demolition. The 'Total Days' estimate for building construction is assumed to be 230 days, unless project-specific data is known.

**Total Project Emissions by Activity (lbs)**

	NO <sub>x</sub>	VOC	CO	SO <sub>2</sub>	PM <sub>10</sub>
Grading Equipment	2,807.34	418.48	3,279.63	56.15	94.18
Paving	1,253.67	216.05	1,836.91	25.07	34.88
Demolition	33,730.17	5,807.45	49,439.62	674.60	938.58
Building Construction	45,377.49	13,486.22	105,443.89	2,729.41	3,067.51
Architectural Coatings	401.28	1,403.70	683.89	16.05	31.73
<b>Total Emissions (lbs):</b>	<b>83,569.95</b>	<b>21,331.91</b>	<b>160,683.95</b>	<b>3,501.28</b>	<b>4,166.87</b>

**Results: Total Project Annual Emission Rates**

	NO <sub>x</sub>	VOC	CO	SO <sub>2</sub>	PM <sub>10</sub>
Total Project Emissions (lbs)	83,569.95	21,331.91	160,683.95	3,501.28	4,166.87
Total Project Emissions (tons)	41.78	10.67	80.34	1.75	2.08

## Construction Fugitive Dust Emissions for Proposed Action

Calculation of PM<sub>10</sub> Emissions Due to Site Preparation (Uncontrolled).

### User Input Parameters / Assumptions

Acres graded per year:	46.39 acres/yr	(From "Proposed Action Combustion" worksheet)
Grading days/yr:	1.64 days/yr	(From "Proposed Action Grading worksheet")
Exposed days/yr:	90 assumed days/yr graded area is exposed	
Grading Hours/day:	8 hr/day	
Soil piles area fraction:	0.10 (assumed fraction of site area covered by soil piles)	
Soil percent silt, s:	8.5 %	(mean silt content; expected range: 0.56 to 23, AP-42 Table 13.2.2-1)
Soil percent moisture, M:	85 %	( <a href="http://www.cpc.noaa.gov/products/soilmst/w.shtml">http://www.cpc.noaa.gov/products/soilmst/w.shtml</a> )
Annual rainfall days, p:	110 days/yr rainfall exceeds 0.01 inch/day (AP-42 Fig 13.2.2-1, Ave. range from 40-240 days/yr on U.S. coastline)	Average annual windspeed at Tampa, Florida
Wind speed > 12 mph %, I:	9 %	( <a href="ftp://ftp.wcc.ncrs.usda.gov/downloads/climate/windrose/florida/tampa/">ftp://ftp.wcc.ncrs.usda.gov/downloads/climate/windrose/florida/tampa/</a> )
Fraction of TSP, J:	0.5 per California Environmental Quality Act (CEQA) Air Quality Handbook, SCAQMD, 1993, p. A9-99	
Mean vehicle speed, S:	5 mi/hr	(On-site)
Dozer path width:	8 ft	
Qty construction vehicles:	15.00 vehicles	(From "Proposed Action Grading" worksheet)
On-site VMT/vehicle/day:	5 mi/veh/day	(Excluding bulldozer VMT during grading)
PM <sub>10</sub> Adjustment Factor k	1.5 lb/VMT	(AP-42 Table 13.2.2-2 12/03 for PM <sub>10</sub> for unpaved roads)
PM <sub>10</sub> Adjustment Factor a	0.9 (dimensionless)	(AP-42 Table 13.2.2-2 12/03 for PM <sub>10</sub> for unpaved roads)
PM <sub>10</sub> Adjustment Factor b	0.45 (dimensionless)	(AP-42 Table 13.2.2-2 12/03 for PM <sub>10</sub> for unpaved roads)
Mean Vehicle Weight W	40 tons	assumed for aggregate trucks

TSP - Total Suspended Particulate

VMT - Vehicle Miles Traveled

### Emissions Due to Soil Disturbance Activities

#### Operation Parameters (Calculated from User Inputs)

Grading duration per acre	0.3 hr/acre	
Bulldozer mileage per acre	1 VMT/acre	(Miles traveled by bulldozer during grading)
Construction VMT per day	75 VMT/day	
Construction VMT per acre	2.7 VMT/acre	(Travel on unpaved surfaces within site)

#### Equations Used (Corrected for PM<sub>10</sub>)

Operation	Empirical Equation	Units	AP-42 Section (5th Edition)
Bulldozing	$0.75(s^{1.5})/(M^{1.4})$	lbs/hr	Table 11.9-1, Overburden
Grading	$(0.60)(0.051)s^{2.0}$	lbs/VMT	Table 11.9-1,
Vehicle Traffic (unpaved roads)	$[(k(s/12)^a(W/3)^b)] \ [(365-P)/365]$	lbs/VMT	Section 13.2.2

Source: Compilation of Air Pollutant Emission Factors, Vol. I, USEPA AP-42, Section 11.9 dated 10/98 and Section 13.2 dated 12/03

#### Calculation of PM<sub>10</sub> Emission Factors for Each Operation

Operation	Emission Factor (mass/ unit)	Operation Parameter	Emission Factor (lbs/ acre)
Bulldozing	0.04 lbs/hr	0.3 hr/acre	0.00 lbs/acre
Grading	0.77 lbs/VMT	1 VMT/acre	0.80 lbs/acre
Vehicle Traffic (unpaved roads)	2.46 lbs/VMT	2.7 VMT/acre	6.70 lbs/acre

### Emissions Due to Wind Erosion of Soil Piles and Exposed Graded Surface

Soil Piles EF =  $1.7(s/1.5)[(365 - p)/235](l/15)(J) = (s)(365 - p)(l)(J)/(3110.2941)$ , p. A9-99.

Soil Piles EF = 3 lbs/day/acre covered by soil piles

Consider soil piles area fraction so that EF applies to graded area

Soil piles area fraction: 0.10 (Fraction of site area covered by soil piles)  
Soil Piles EF = 0.3 lbs/day/acres graded

Graded Surface EF = 26.4 lbs/day/acre (recommended in CEQA Manual, p. A9-93).

### Calculation of Annual PM<sub>10</sub> Emissions

Source	Emission Factor	Graded Acres/yr	Exposed days/yr	Emissions lbs/yr	Emissions tons/yr
Bulldozing	0.00 lbs/acre	46.39	NA	0	0.000
Grading	0.80 lbs/acre	46.39	NA	37	0.019
Vehicle Traffic	6.70 lbs/acre	46.39	NA	311	0.155
Erosion of Soil Piles	0.30 lbs/acre/day	46.39	90	1,253	0.626
Erosion of Graded Surface	26.40 lbs/acre/day	46.39	90	110,234	55.117
TOTAL				111,834	55.92

Soil Disturbance EF: 7.50 lbs/acre  
Wind Erosion EF: 26.7 lbs/acre/day

Back calculate to get EF: 1,469.10 lbs/acre/grading day

## Construction (Grading) Schedule for Proposed Action

Estimate of time required to grade a specified area.

### Input Parameters

Construction area: 14.69 acres/yr (from "Proposed Action Combustion" Worksheet)  
Qty Equipment: 15.00 (calculated based on 3 pieces of equipment for every 10 acres)

### Assumptions.

Terrain is mostly flat.

An average of 6" soil is excavated from one half of the site and backfilled to the other half of the site; no soil is hauled off-site or borrowed.

200 hp bulldozers are used for site clearing.

300 hp bulldozers are used for stripping, excavation, and backfill.

Vibratory drum rollers are used for compacting.

Stripping, Excavation, Backfill and Compaction require an average of two passes each.

Excavation and Backfill are assumed to involve only half of the site.

### Calculation of days required for one piece of equipment to grade the specified area.

Reference: Means Heavy Construction Cost Data, 19th Ed., R. S. Means, 2005.

Means Line No.	Operation	Description	Output	Units	Acres per equip-day	equip-days per acre	Acres/yr (project-specific)	Equip-days per year
2230 200 0550	Site Clearing	Dozer & rake, medium brush	8	acre/day	8	0.13	14.69	1.84
2230 500 0300	Stripping	Topsoil & stockpiling, adverse soil	1,650	cu. yd/day	2.05	0.49	14.69	7.18
2315 432 5220	Excavation	Bulk, open site, common earth, 150' haul	800	cu. yd/day	0.99	1.01	7.34	7.41
2315 120 5220	Backfill	Structural, common earth, 150' haul	1,950	cu. yd/day	2.42	0.41	7.34	3.04
2315 310 5020	Compaction	Vibrating roller, 6 " lifts, 3 passes	2,300	cu. yd/day	2.85	0.35	14.69	5.15
<b>TOTAL</b>								<b>24.61</b>

### Calculation of days required for the indicated pieces of equipment to grade the designated acreage.

(Equip)(day)/yr: 24.61

Qty Equipment: 15.00

Grading days/yr: 1.64

## West Central Florida Intrastate Air Quality Control Region (WCFIAQCR)

Row #	State	County	Area Source Emissions						Point Source Emissions					
			CO	NOx	PM10	PM2.5	SO2	VOC	CO	NOx	PM10	PM2.5	SO2	VOC
			SORT											
1	FL	Citrus Co	66,872	4,957	9,702	3,780	377	7,901	1,376	34,750	5,526	4,647	94,867	329
2	FL	Hardee Co	15,466	1,162	4,066	1,399	117	1,609	25.6	757	30.6	30.6	9.07	6.46
3	FL	Hernando Co	55,686	4,368	6,707	2,850	335	6,371	1,686	5,607	380	154	2,802	110
		Hillsborough												
4	FL	Co	336,686	45,454	20,277	6,747	4,362	51,446	2,740	57,948	8,932	7,636	79,477	2,294
5	FL	Levy Co	67,944	2,727	8,331	5,033	400	6,209	0	0	0	0	0	41.8
6	FL	Manatee Co	88,210	9,604	6,232	1,960	837	12,888	1,211	9,997	903	817	35,017	2,098
7	FL	Pasco Co	122,172	12,078	13,316	4,152	802	16,401	920	9,890	1,762	1,352	30,091	299
8	FL	Pinellas Co	293,892	31,346	7,939	2,631	1,878	46,601	823	6,845	1,133	868	26,507	1,014
9	FL	Polk Co	197,614	20,053	20,778	7,223	1,569	28,360	4,838	13,544	4,263	3,814	39,327	5,105
10	FL	Sumter Co	43,079	4,152	5,740	2,632	297	4,122	0.3	2.91	0.61	0.6	4.76	35.2
Grand Total			1,287,621	135,901	103,088	38,407	10,974	181,908	13,620	139,341	22,930	19,319	308,102	11,332

SOURCE:

<http://www.epa.gov/air/data/geosel.html>

USEPA - AirData NET Tier Report

\*Net Air pollution sources (area and point) in tons per year (1999)

Site visited on 25 July 2006